AND

JOURNAL

OF

# Rural Art and Rural Taste.

DEVOTED TO

HORTICULTURE, LANDSCAPE GARDENING, RURAL ARCHITECTURE,
BOTANY, POMOLOGY, ENTOMOLOGY, RURAL ECONOMY, &c.

CONDUCTED BY

J. JAY SMITH,
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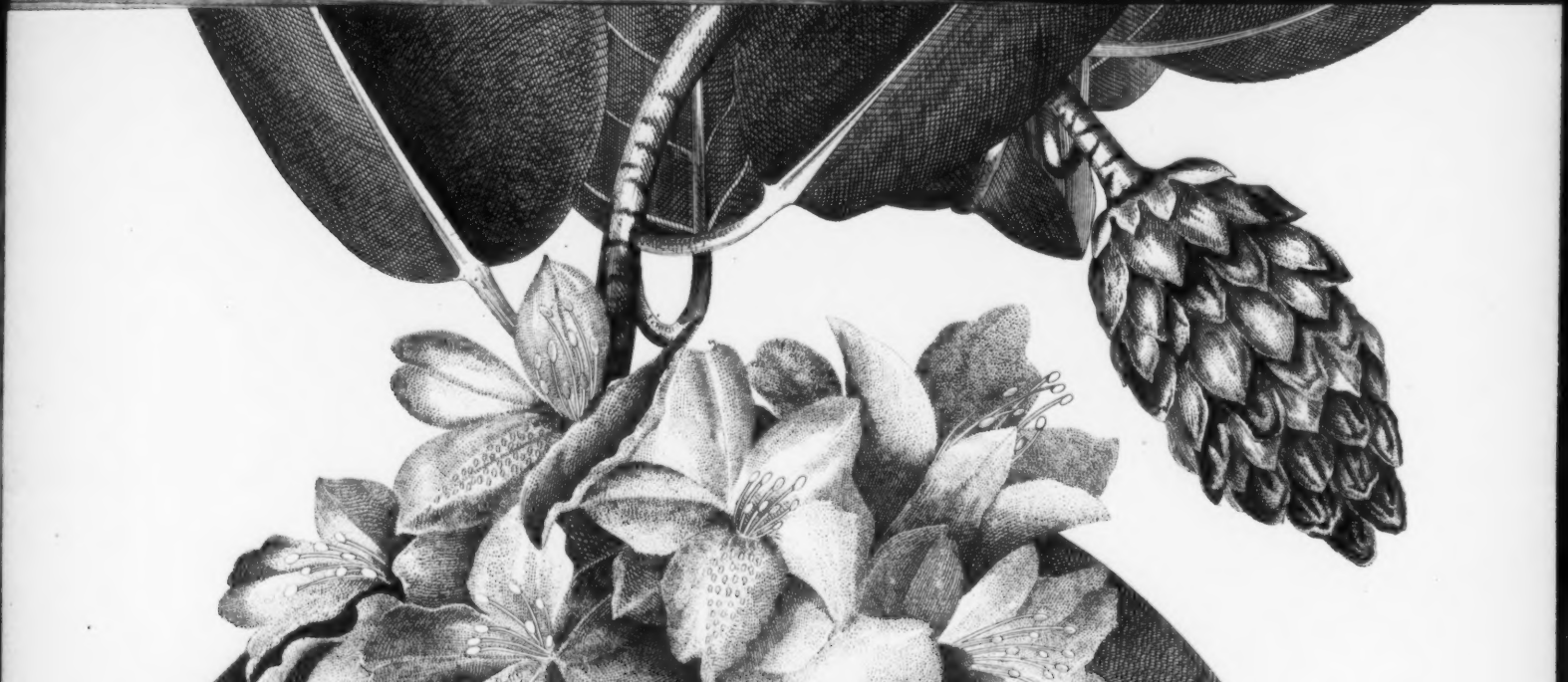


Mc DOWELLS NEW RHODADENDRON.

COUNTRY HOUSE NEAR WILMINGTON, DEL.

R. Morris Smith, Architect, No. 74 South Fourth St., Philadelphia.

## A short Chapter on Gardeners and Experimental Gardens.

THE topics most in men's minds are often the ones that, for some cause or other, are most rarely discussed by the press. Gardeners, is one which is left to itself, because this useful class is very naturally sensitive to criticism, and does not bear animadversion better than other people; and yet it is of great interest to every person who has even small premises where fruit, flowers, and vegetables are to be grown. How are we to have a succession of gardeners?

The *Horticulturist* has had frequent communications in it, written by members of the profession, who were fully alive to the difficulties that exist with both the employers and the employed, and many home truths have they told to both parties. What we now say must be received in the spirit of kindness which dictates it. We of course feel, and have always felt, a deep interest in the subject; difficulties do exist, and will continue till some plan is hit upon for the education of gardeners of American growth; the more plainly we speak upon the subject, the better it will be for all parties, and the sooner we shall arrive at some profitable result.

At present, our best florists and gardeners are from abroad; we have among them not a few who are well educated, and superior to the average of the profession in Europe; but we hold it as an axiom not to be disputed, that a gardener educated in the climate, and surrounded by the habits in which he is to live, is, *cæteris paribus*, more likely to succeed, at first entering upon his duties, than one from a different soil. What we want is a "Gardener's College" in every State; or, if the name is too high sounding, call it an "Experimental Garden." Such institutions have succeeded abroad, but here, with proper men at the head of them, men who understand what is going on, and are capable of directing, success is beyond a doubt. Such institutions need not depend on State patronage, which would be the last kind of encouragement we would admit into the management, both because it would insure change of direction and political intrigue, and would imply a government of electioneering spendthrifts. We would have a few intelligent neighbors to unite in every section of the country, and purchase in joint stock a suitable piece of ground, near enough to their own property to be within their means of frequent call; employ the best gardener to be procured, whether native or foreign, and exhibit to their visitors what a garden may become. From it each stockholder could draw specimen plants and trees, true to name, by way of dividend; the extra produce, both of fruit, vegetables, trees, and plants, should

be sold at the most convenient depot, as well as at the garden; the proceeds would very soon pay all expenses, and leave a supply; the head gardener, and even the assistants who proved themselves worthy of confidence, should receive a percentage on the sales, on the same plan as was so long pursued in the eastern whale-ships; no one should participate in this percentage who did not remain a certain stipulated length of time.

Here should be a respectable school for apprentices—a place not yet provided in any part of the United States—for the education of gardeners; the consequence of which is that we have no class growing up among us acquainted with our climate and our wants; we depend upon foreign labor in this department, and we all know, with honorable exceptions not a few, what we get. As remarked by Mr. Chorlton, himself a good judge of a gardener's qualifications: "So long as the present system of obtaining gardening labor is in existence, we may not look forward with a progressive eye. *We want more home-made gardeners*, so as to infuse a portion of the home intelligence into the business. Let horticulture be advocated and acknowledged as a science more strenuously in the newspapers, in the different periodicals, and throughout society, so as to make it appear worth while for the intelligent youths of the country to take it up; let it be spoken of on the hearth-stone as something worthy of their acceptance; educate them so that they may apply their minds for a time to close study and observation of nature; and withal entice the cottagers to cultivate their plots by encouraging them at the Horticultural Societies, so that the family growing up may acquire a taste for these things, *for it is from such homes that native gardeners must come.* Add to this a better knowledge of gardening affairs on the part of employers, so that they may know how to appreciate the value of a good gardener, and he will be stimulated to fresh exertions. Likewise establish public and experimental gardens, that we may have something to look up to."

The education necessary for a gardener is not merely one of routine. "All operations in horticulture," says Professor Lindley, "depend for success upon a correct appreciation of the nature of the vital actions; for although there have been many good gardeners entirely unacquainted with the science of vegetable physiology, and although many points of practice have been arrived at altogether accidentally, yet it must be obvious that the power of regulating and modifying knowledge so obtained cannot possibly be possessed, unless the external influences by which plants are affected are clearly understood. Indeed, the enormous difference that exists between the present race of gardeners and their predecessors can only be ascribed to the general diffusion that has taken place of an acquaintance with some of the simpler facts in vegetable physiology." Gardeners can scarcely call themselves such unless they have mastered this science; let those who complain of the want of good assistance ask themselves how much have they done to assist in teaching it. How many of us provide books on the subject for our gardeners?

As to the compensation of gardeners it would be difficult to fix a rule; but this

we can say, that when the art flourishes to the extent it is destined to do, prices will follow demand. As a general rule, we do not think *the best* gardeners are sufficiently paid. To have become a thorough master of the business implies a long study and much time; in other professions we hear this brought forward as an argument for high charges. The consulting physician sends in a bill of ten dollars for a single visit; the attorney charges hundreds of dollars for a fee; but the gardener, at a price which tailors would consider very indifferent compensation, is supposed to be well enough paid, though he places on the table of his employer, daily, fruits which are beyond price, and flowers which money can scarcely purchase.

One mode of compensating gardeners, beyond present prices, we have seen successfully practised both abroad and in America. Some persons may object to it, but on examination it will be found both practicable and a useful stimulus, no less than a public benefit. Colonel Wyse, who expended fifty thousand dollars in opening the Egyptian Pyramids, and whose residence is near Windsor Castle, when age had begun to confine him to home, entered warmly into the spirit of gardening, and with his ample fortune provided every known means for propagating fruit on an extensive scale for his own amusement. He very soon found himself overstocked with the most delicious fruit; but instead of diminishing his walls and houses, he quadrupled them, gave his gardeners an interest in the proceeds, and they very soon became great contributors to Covent Garden market. In a short time the experiment not only supplied his own table bountifully, as well as the tables of his friends, but the returns paid all the cost of a large corps of employées. He had the full enjoyment of a capital garden, with plenty to consume and give away, without cost. A few instances of similar success on this plan have come to our knowledge here; and mostly, we believe, the gardener receives the premiums of Horticultural Societies for plants and fruits raised at the employer's expense.

Still, we think the best gardeners are sometimes under-paid, and that *discrimination in prices* is too frequently disregarded. The result is that the best informed, most practical and useful, often desert their employers as soon as an opportunity presents of going into business on their own account. Owners of gardens in first rate condition find it difficult to supply the deficiency, get discouraged, and blame the profession; whereas if they had made the home of the gardener comfortable, given him enough to educate his children, and otherwise made a friend of him, he might have enjoyed his operations, performed on a plan he had become accustomed to, for the whole of his life, instead of encountering new terrors in the shape of such new torments—who, as Mr. Barry says, "often palm themselves off as gardeners, when they were nothing more than mere garden laborers in their own country."

With regard to experimental gardens, those who have seen the one at Edinburgh need not be informed that it is a model of beauty, has been very profitable to the few stockholders, and has turned out some of the best gardeners in Europe.

Mr. Chorlton, on this subject too, bears emphatic testimony: "I have had some experience in the working of such societies in England, and can assert with confidence that they have done more to elevate gardening in that country than anything else. They have been the means, during the last twenty years, of making English horticulture the model for the world, of stimulating skill, and raising a higher standard of perfection." Mr. Elliott, the esteemed fruit-grower of Ohio, in the first number of the *Ohio Farmer*, bore similar testimony to the advantages of experimental gardens, but hitherto an apathy has prevailed fatal to any prospect of education among us; until we wake up to its importance, we must continue to bear our present burdens. But that the time is near at hand to move in the matter, we fully believe. Who will set the ball in motion? It is time the gardener was elevated to a position which the importance of his profession entitles him to hold. He is very often a well-educated companion, whose conversation and general intelligence would compare with his superior in mere wealth; not unfrequently he has travelled in pursuit of knowledge, and can bring an amount of experience to his business that is truly valuable. Such men are the prizes; let us not hereafter have it to say they are the exceptions—which surely they will become more and more, when, from any cause, emigration ceases—unless we provide the means of education to their children or our own.

Experimental gardens would be the head-quarters from which gardeners, both domestic and foreign, would get certificates or diplomas of their qualifications; they would, in short, be a boon to both employers and employed.

## McDOWELL'S RHODODENDRON.*

Mr. Redmond, the editor of the *Southern Cultivator*, has favored us with a beautiful drawing of a new, or at least undescribed Rhododendron, which we have great pleasure in presenting to our readers, with the following narrative of its discovery. Plants are promised us in the Spring, when we may be able to give a further account of it:—

Editors Southern Cultivator: I send you a drawing of a flowering evergreen shrub, recently discovered on some of the mountains in Macon County, North Carolina, which, in point of beauty and magnificence, is second only to the Magnolia Grandiflora.

It is a nameless and undescribed variety of Rhododendron; there is, however, a traditionary account of its discovery some sixty years since, by a botanist by the name of Fraser, then exploring this country, under the patronage of the then Emperor Paul, of Russia. Fraser died suddenly on his return to St.

* See Frontispiece.

Petersburg, which, probably, is the cause of an account of it never having been published.

The annual burning of the forests in which it grows usually destroys it, so that it is extremely difficult to find a specimen of it. Some four or five years since, however, S. McDowell, Esq., of Franklin, Macon County, North Carolina, rediscovered this truly gorgeous plant, and for a year or two past has been engaged in propagating them, by removing the plants to his garden near that place. The shrub grows to the height of four or five feet, and is of easy cultivation; the foliage is larger and more rich than that of the Pontic varieties with which we have compared it; the panicles of flowers, too, are larger and more brilliant in color. Mr. McDowell sent us a box of the flowers in June, which we compared with those of Ponticum, which we fortunately then had in bloom, and which were inferior to it in all respects. The foliage also differs from it, being larger and heavier, having golden yellow footstalks and midrib, the peduncles to the flowers being likewise of the same color, whilst those of Ponticum are green; the undersurface of the leaves are nearly white and of a velvety texture, differing from R. Maximum and R. Catawbiense in not becoming ferruginous. No native American flower can exceed it in habit and beauty, and it must become a popular acquisition to the shrubbery and flower garden, being sufficiently hardy to endure any climate. Its color is a bright crimson approaching towards scarlet; the panicles are composed of a large number of flowers, from twenty to thirty, forming a conical mass nearly as large as a man's head; the contrast between these and its dark-green foliage is very rich and magnificent, and can only be conceived of by being seen.

The labors of Mr. McDowell have been both arduous and unremitting in transferring these plants to his grounds, as they have only been found on the tops of the highest and most inaccessible mountains, the only approach being on foot; he has employed men to bring them some six or seven miles on their shoulders, it being the only mode of conveyance practicable. Specimens of flowers and leaves have been sent to many of our most celebrated botanists and cultivators of Rhododendrons, and, as yet, all have failed to identify it with any previously known, and it will probably prove to be a new species.

We hope the industry and labors of Mr. McDowell may meet with a suitable reward in the sale of his noble plant; and those who procure them, we will guarantee, will never regret having done so.

J. VAN BUREN.

Clarksville, Ga., August, 1855.

N. B.—The drawing I send you is a fac simile of a medium sized panicle of flowers sent me by Mr. McDowell.—J. V. B.

# CULTIVATION OF THE RASPBERRY.

BY DANIEL HUGHES, HAVERSTRAW, N. Y.

From a given amount of money, the Raspberry will, I think, return a larger amount of enjoyment and profit than any other fruit—the grape even not excepted. The raspberry season is looked forward to with the same earnest longing; both are delightful portions of the circle of the year; the refreshment which characterizes the grape is possessed in even a higher degree by some of the fine varieties of the raspberry, such as Knevett's Giant, Rivers' Monthly, and pre-eminently by Brincklé's Orange, which is undoubtedly the finest in cultivation.

Raspberries may be grown in almost every variety of fertile soil with nearly equal productiveness, but with greatly varied luxuriance, two constant requisites being always maintained—depth and richness of soil. The ground should be worked at least to the depth of eighteen inches, unless it is very retentive of moisture, or the subsoil very obstinate, in which cases water will accumulate at the roots, and cannot be disposed of at much less depth; so that the fibres may avoid the danger of being winter-killed, or death from being laden with water in summer. I have grown them with great success on reclaimed old swamp, and on very open sandy loam, as well as on almost every intermediate grade of soil. Those on reclaimed swamp grew, for the most part, rampantly as regards the plants, but did not produce the best berries, nor the best plants from which to form a new field; the best fruit was uniformly from light upland.

In manuring for the raspberry, a deep alluvial soil, rich in vegetable mould, will require a light dressing of well-rotted stable manure, with a top dressing of ashes immediately after planting, employing from ten to thirty bushels to the acre. For a light sand or loam, a liberal dressing of compost will be necessary; to four loads of vegetable muck, add one load of rich barnyard manure, and from four to eight bushels of unleached ashes; and if lime is cheap, it may be advantageously used to twice the amount of the ashes, together with salt lye, which is the best addition to the compost that can be used for this fruit. Mulch the roots well, to keep the ground free from weeds; but the grand point to be insisted on is depth of culture, which leaves a constant supply of moisture, obviates the danger of too much wet, and gives scope for the ever active roots to hold their revels, which they manifest in a profusion of fruit.

For the growing of good fruit it is not *necessary* that the canes should be supported, though it is advantageous, and also convenient in picking. The most obvious method is to support the canes of each hill with a stake; but a more effective and convenient way would be to stretch a wire along the rows, supported by a firmly braced post at each end, and at intervals of about thirty feet drive stakes into the ground to support the wire at an elevation of about three feet, or four feet for the most vigorous growers; spun yarn will answer.

The rows should be four feet apart. North of the latitude of Philadelphia (and there also) lay down and cover the canes in winter. When the bearing season is at an end, the old canes should be cut out, and the shoots that have sprung up for next year's bearing should be thinned to the proper number, varying according to the strength from three to five; remembering that the crop is made or marred the year previous to its production. In choosing plants, the root, and ripeness and solidity of wood, not length of canes, should govern the choice; large canes, with small roots, are undesirable.

My first choice as a market fruit, is the Hudson River Antwerp, for its size, exceeding productiveness, and its firmness, which enables it to bear transportation. The current year one thousand dollars net were realized here from one acre of this variety. For field culture it deserves its celebrity, but for the garden it is much excelled by the seedlings of Dr. Brincklé. Fastolf is nearly equal in productiveness, but a much more vigorous grower, and somewhat more hardy. Its rich berries almost burst with their fine juice, and do not bear carriage well.

Franconia is a vigorous grower, and rather more hardy than either of the above, with large, dark-colored fruit, bearing carriage nearly as well as the Antwerp; it is a late bearer, of high flavor, and especially excellent for cooking.

Knevett's Giant is truly gigantic, excellent for the dessert, and for preserving. Rivers' new large-fruited Monthly had been a disappointment till I determined to thin out offsets, and let no more grow than were required for fruiting, and that had the desired effect; and it has proved the most productive that I have cultivated, more than twofold of the H. R. Antwerp.

The Yellow Antwerp is a very good variety, but its berries are so much softer than Hudson River, that it is not grown for market. As Elliot remarks in his *Fruit Grower's Guide*, "it will soon give place to Brincklé's Orange and Colonel Wilder, which are far better varieties."

May's Antwerp is an excellent productive variety, but less hardy than the above, and of much less vigorous growth. Ohio Ever-bearing, by those who like the black-cap variety, will be greatly prized, bearing as it does profuse clusters. Catawissa has much the habit of the last, but the fruit hitherto has not been comparable to it in flavor.

Colonel Wilder is a white berry, of brisk, rich flavor—productive, excellent, and hardy. Vice-President French is a vigorous and productive variety; berries large and juicy, with a high subacid taste; a late bearer. To Cushing, the description of Vice-President French will apply, except that it is exceedingly sweet; it bears until after many are dry from frost. Yesterday (Oct. 20) I picked a branch loaded with fruit; its leaves were green, while those around it were shrivelled up; very hardy. Brincklé's Orange is among raspberries what the Newtown Pippin is among apples. In conversation lately with Mr. Charles Downing, who is eminently conservative, he remarked: "This is by far the best raspberry in cultivation." It should have been called Opal instead of Orange, its translucence suggesting the brilliant play of light of that gem, and its beauty

is equalled by its excellence; it is very vigorous, hardy, and productive; continues long in bearing; most excellent in every respect for field and garden. The Walker, were it not for its exceeding adhesiveness to the germ, would be valuable. The Mrs. Wilder is so like the Colonel Wilder as scarcely to need a separate description. It is not so hardy, and not so productive. The double-bearing Antwerp scarcely bears at all! and what fruit there is, scarcely tolerable. Several native varieties have high-flavored fruit, but the berries are too small to be valuable. The true Antwerp is very hardy, and a most vigorous grower, and bears good crops of medium quality; it is still cultivated in Jersey for market. The Northumberland Fill-basket has a high English nursery reputation, but has not yet given any indication of merit in this country.

[The above is a capital article by a practical and observing man. We may remark that he omits two of the most valuable manures for this plant—*spent tan*, and chippings of leather; the raspberry luxuriates in this kind of food.

Mr. Hughes cannot have the true *Mrs. Wilder*, the fruit of which was larger and finer than the Colonel Wilder; but unfortunately the original plant was destroyed before it was disseminated.

In regard to the Walker, the pertinacity with which the fruit adheres to the stem renders it more valuable for market purposes, but it should be gathered *with the stem on*, as is the custom in England, and then it can be transported to any distance. When fully ripe, there is no raspberry that will remain so long in perfection, on or off the plant, as the Walker.—Ed.]

## ORNAMENTAL TREES—THE LOMBARDY POPLAR.

BY LEWIS F. ALLEN, BLACKROCK, NEW YORK.

Were I disposed to solemnize, after the fashion of Natty Bumppo, in the midst of the Catskills, while gazing alone from one of its topmost peaks far away down into the broad valley of the Hudson at the "wasty ways" of the white man, I might commence this, my homily, with the profound remark, that "man is a *capricious* animal!" Even so, as applied to the ornamental verdure wherewith he should surround his dwelling, or decorate his grounds. Forty odd years ago—I was a boy then—the pleasant village near which I was nurtured, in the charming valley of the Connecticut, had some of its pleasant homes and cleanest streets planted with the Lombardy poplar. They threw up their clean, straight stems, and trembling sugar-loaf tops far above the great elms which swung their branches in hoary majesty around them, and with the tall spire of the white meeting house, gave the town a cheerful, happy look, such as it has never worn since the "better taste" of the good people there have cut them all away and supplied their places with locust, alianthus, and maples. Nor am I disposed to find fault with the ephemeral,

cockneyfied character of the two first of these, while I yield to no one else in my real admiration of the other. But I never could divine the reason why the cheerful native of sunny Lombardy should be so remorselessly cut away at the bidding of a capricious will, when it really has so much of intrinsic beauty in itself, and appropriately applied, gives such picturesque variety to groups of the round-headed trees in its immediate vicinity. Yet it has been swept utterly out of existence in many localities, and scarce one of our professional landscape-gardeners, or writers, much more our tree-raisers, have the moral courage, or true taste to recommend its propagation, or to cultivate it in their grounds.

It is now the twelfth day of November. The soft haze of our Indian summer has been floating around us for a week. One after another the yellow, red, and russet leaves from the various trees in the lawn and adjacent forests, have fallen silently to the ground, and left their limbs bare as in mid-winter; while from the window at which I sit, looking out upon the clear, sweeping Niagara, and on to the opposite Canada shore, keeping guard over the cheerful, white-painted dwellings behind them, mixed in with the golden willow, stand hundreds of beautiful Lombardy poplars for miles along, still glorying in the soft yellow tints of their full leafy tops, and cheering up with life and beauty a most delightful landscape. How gracefully, too, they throw their long shadows into the clear water with the sunshine. Yet fashion—capricious, senseless, fussy fashion, calls them vulgar. Not so do I. Spite of fashion, with its caprice and nonsense, the Lombardy poplar is still a graceful, beautiful tree. And I'll tell you why. Not in stiff, formal rows, like a line of grenadiers with shouldered arms, guarding an outpost; or in naked, stake-like regularity lining an avenue; but shooting up their taper heads here and there among other trees, like the tall spires of churches among wide blocks of houses, giving variety, point, and character to a finished picture.

The Lombardy poplar, like the cottonwood, is a *universal* tree. It grows in all our climates alike, from the lagoons of the Gulf of Mexico to the northern extremities of the upper lakes. It grows from the slip. Cut off a branch large as your arm, and plant it two feet in any kind of a soil, no matter how sterile, short of a dead swamp, and it will grow with great rapidity and vigor. In ten years, with no care or pruning, it becomes a stately tree forty feet high. What tree will do the like? It is a clean tree. Its roots throw up no suckers. Worms and vermin seldom molest it—less even than many of those esteemed *most* ornamental. It is a conspicuous landmark, in elevated spots, indicating, miles away, the spot you wish to reach. You are told that when old, its limbs decay, and it becomes ragged, and repulsive to the sight. Then cut the top down to half a dozen prongs, a dozen feet from the ground. No other tree but a willow will *stand* that. But the poplar heeds it not. With a vitality unknown to the greatest favorites, it strikes out anew its numerous upright shoots, and in two years its taper limbs are high in the air, and before you are aware of it, it towers among its fellows as if the saw or the axe had never touched a branch. It comports fitly

with the Italian architecture of our houses—the best of all styles for country buildings. Economical, when dry, it is a good summer fuel. If you doubt it, ask the bakers, or the charcoal men. No wood does better. But I speak of this incidentally, valuing it only as an ornament. Yet with all these good qualities, one may ride a hundred miles through a country boasting fine grounds, and elaborate furnishings, without seeing a single specimen.

Let our tastes become better cultivated, and overcome the narrow prejudice that has banished this once graceful and cherished tree from our grounds; and throw it in, here and there, and all about in miscellaneous companionship with others, and then acknowledge that it has grace and beauty, long life, and enduring foliage. It will throw out its rich, brown clusters of flower buds, when the ground is still filled with frost, and its pea-green leaves open their downy coverts in the earliest spring; it will whisper its grateful rustling music throughout the heats of summer, and cheer you with its soft, yellow garniture till the very frosts of winter cut them down. Ho! then; let us give renewed life to the long-neglected Lombardy poplar.

[With regard to this tree, we can just remember that there was an outcry against it, because it was believed to be infested with the "poplar worm," supposed to be poisonous, we believe unjustly so. Fashion has undoubtedly done the deed, and fashion, in due time, will restore it to its true uses, as it has done the hollyhock, tabooed till Wordsworth made it again a favorite. It is a rule in the composition of landscape, that all horizontal lines should be balanced and supported by perpendicular ones; hence the Lombardy poplar becomes of great importance in scenery when contrasted with round-headed trees. It is admitted by all writers on the material sublime, from Burke to Dugald Stewart, that gradually tapering objects of great height create the emotion of sublimity. These trees may be advantageously planted wherever there is a continuance of horizontal lines, but they should be so arranged as to form a part of those lines, and to seem to grow out of them, rather than to break or oppose them in too abrupt a manner. In the case of a stable or other agricultural building, where the principal mass extends in length, rather than in height, it would be wrong to plant Lombardy poplars, or other tall fastigiate trees immediately before the building, but they will have a good effect when placed at the sides, or behind it.

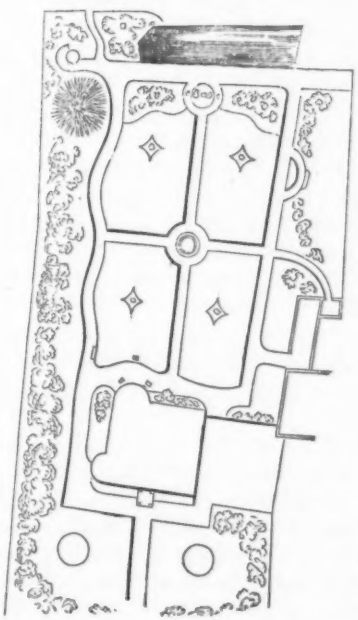
Such trees (fastigiate) should appear in all plantations and belts that are made with a view to picturesque effect, but it is a most dangerous tree to be employed by a planter who has not considerable knowledge and good taste in the composition of landscape. It would make an excellent shelter on the prairies; for a screen from the winds it should be planted close, and the top cut off annually. Its rapidity of growth renders it suitable to half-screen a too staring open view where it is desired to look under the branches. Along the sides of lakes lengthened and pleasing reflections are produced, which, breaking the horizontal gleams of light, not only produce variety and richness, but, by increasing the length of the perpendicular lines formed by the poplars, confer a degree of sublimity on the picture.]

# LANDSCAPE GARDENING.

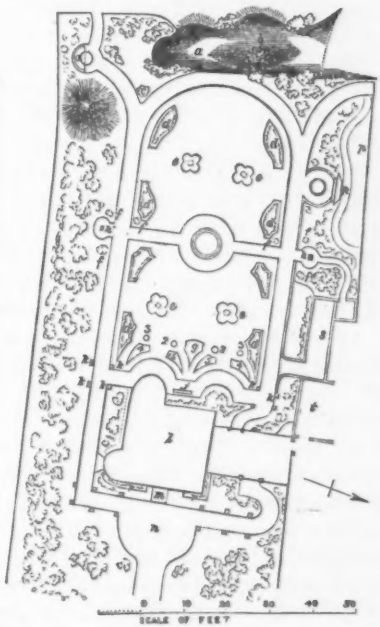
(FROM TURNER'S FLORIST, FRUITIST, AND GARDEN MISCELLANY, LONDON.)

In the course of our professional journeyings immediately round about the metropolis, it has been a matter of surprise to us that the gardens of villas, large and small, exhibit in their arrangement less good taste than those of similar

ORIGINAL PLAN.



IMPROVED PLAN.




*a* Pond.
*b* Mass of Water Lily.
*c* Large Chinese Arbor-vitæ.
*d* Clump on turf for herbaceous plants and small flowering shrubs, and bordered by clipped evergreen hedges of Cotoneaster, &c.
*e* Beds on turf, with Juniper in centre, flowering plants round.
*f* Irish Yews.
*g* Parterre on turf.
1. Blue with white margin.
2. Scarlet.
3. Light pink.
4. Brownish orange.
5. Deep violet or purple.

*h* Statues on pedestals.
*i* Fountain.
*j* Seat on centre line.
*k* Vases on pedestals.
*l* House.
*m* Porch.
*n* Coach ring.
*o p* Alcoves.
*q* Background for reserve, &c.
*r* Border for creepers against house.
*s* Greenhouse.
*t* Laundry.

dimensions in provincial districts. Not that this has been the result of accident; for they almost invariably boast of a large amount of laying out, and not uncommonly is it their misfortune to have too much of it, in that an attempt is made to accommodate within a small space a certain quantity of all the different ingredients which go to the making up of a large garden; and these are obtruded upon each other in such admired discord that a visitor is inclined to compare the *tout ensemble* to a marine store-shop of odds and ends of gardens. We have frequently seen, within the space of half an acre or so, geometrical arrangements, sweeps of shrubbery, herbaceous borders, serpentine walks, arbors of different kinds and patterns, with stone vases and statues scattered about upon the ground or mounted upon picturesque old stumps; finally, no garden of the kind is considered complete without its fountain, rock-work and lake.

These various items are crowded together in so small a space, that from the windows of the house they are all under the eye at the same time; and care has generally been taken, for the sake of contrast, that the parts least in harmony with each other should be placed most closely in juxtaposition.

It is only confusion and disorder we would be understood as objecting to, not variety. The exhibition of skill in arranging a garden consists not only in the careful adaptation of the parts to their proper effects and purposes, but also in arranging their order with reference to each other, so that they shall combinedly form a harmonious whole; and these points duly kept in view, as much variety should be introduced as the space admits of without crowding.

As examples are more illustrative than a long dry discourse, we have selected a case in point from amongst those which have come under our consideration, and give engravings by which we can render more intelligibly an idea of what the garden was and of what it is now.

The house is pleasantly situated in one of our suburban villages, having its entrance towards the public road, and looking from the garden side over a flat agricultural scene, with which the house stands too much on a level. In front of the house a respectable piece of garden extends itself, flanked by a shrubbery on both sides, and bounded by a pond between and the extended meadows beyond. On the right is the greenhouse, at the end of one of the offices, inconsiderately placed so close to the garden as to make it an impossibility to conceal it by planting without materially encroaching upon the ground. Farther to the right stand coach-house, stables, and other offices, and beyond these a large kitchen garden.

The house itself is of plain red brick, unpretending in its architecture, and of a description which would require considerable outlay to give it a degree of ornamentation. The drawing-room, ending with a large bow on the left hand side of the group, being the only important room on that side of the house, it rendered the arrangement of the garden difficult; this, however, had been managed without the slightest reference to any windows of the house or in any other way with regard to it. The ground was simply cut longitudinally by a

walk somewhere about the middle, and across again about half way in the other direction, and, strangely enough, without any regard to right angles; and where these two lines intersected a fountain was introduced—other walks were made on each side of the garden, on one side a straight one, and on the other an example of the serpentine, and were joined at each end by other irregular ones; two arbors were added with as little regard to symmetry as possible, and an arrangement of clumps containing large shrubs crossed the end of the garden, completely shutting out the view of the meadow, and diminishing the prospect of the distant country. Near the centre of each compartment of turf was a peculiarly unplantable bed, with four long points, having a shrub in the centre, and intended to contain half-hardy plants, &c. The outer borders were all bounded with box-edgings, and contained mixtures of common flowers and shrubs. Bits of rock-work, shellwork, and old blocks and stumps were scattered about, and generally these specimens of the grotesque were surmounted with a vase or statuette.

The great faults in this case were the shutting out of the extended prospect, the cutting up of the garden into small patches, and the complete exposure of all the walks, as though they were the most important features of the garden. The first of these was rectified by clearing away the clumps near the pond, the second by destroying the centre walk, and the third by fringing the broad turf plot so obtained with clumps for flowering and other shrubs of moderate growth, which would rectify the obtrusiveness of the sidewalks, and be subservient to the larger shrubs beyond them.

In the new arrangement a centre was obtained upon a line from the fountain, at right angles with the building; and to give a balance to the basis of operations, a large projecting mass of close-clipped evergreen was introduced, to correspond with the shape of the drawing-room bow, which also served to aid in concealing the offices and yard on the right hand side of the house, and the yard itself was considerably contracted, that it might be effectually planted out on both sides from the garden.

Parallel with this centre line, and equidistant from it, the two sidewalks were laid down, and the use of box edging confined to the right hand side, where double lines are shown, and where it was most in keeping from its contiguity to the greenhouse; on the left hand side turf was used up to the shrubs, which were pegged down to meet it and conceal the margin. The two sidewalks were curved round so as to meet each other near the pond, which was made less artificial in outline, and rendered a more endurable object from wherever it could be seen. From these walks a branch was made to lead to the summer-house and meadow wicket on one side, and on the other side towards the kitchen garden. The branch walk leading to the back of the greenhouse was so curved as to render it less obvious, and in a circle of gravel, as shown, was placed, upon a suitable pedestal, one of the best of the statues—one we found stuck up in the fork of an old Mulberry tree; and on the opposite side of the garden a corresponding niche was made for its companion. The other architectural embellishments, in the

shape of vases, were furnished with proper pedestals, and appointed to suitable positions as near the mansion as possible.

We deemed that the house itself and the laundry could be most economically improved in appearance by covering them entirely with creepers, and especially with evergreen Roses, Pyracanthas, variegated and other ornamental Ivies, and the like, with a due admixture of Clematis, Honeysuckle, Wistaria, &c.

As the greenhouse and frame accommodation was limited, we were not justified in proposing a very extensive parterre, even if the extent of the ground warranted it; its natural flatness, however, suggested the propriety of a certain quantity of such arrangement, and it was obviously important that such feature should be as near the house as possible.

The apparent breadth of the garden, and indeed its general extent, being so much increased by these arrangements, the four beds *e e e e* were introduced on one side, in line with centre of drawing-room window, and in a corresponding position upon the other. It is admissible that these should be filled either with dwarf flowering shrubs or with half-hardy plants, annuals, according to convenience, &c. A Swedish Juniper has a satisfactory effect in the centre of each.

So much more having been made of the ground in front, it became a reasonable matter to have nothing but shrubs and turf on that side of the house, and arrange that carriages might come quite up to the front door, instead of unloading at the wicket gate against the road in all weathers. Other matters are, we consider, so fully explained by a comparison of the two plans, and the references thereto, that it will be needless to lengthen the article with further description.

## DOWNING'S FAMILIAR NOTES AND LETTERS.

### No. I.

An early acquaintance with the founder of the *Horticulturist* gave us an assurance of his merits. Before he had written a line for the public, several letters passed between us which revealed a mind in active pursuit of truth. There was, too, an earnestness and hope about all that he did, and yet that repose and self-possession which are so fascinating. Looking over some bundles of filed letters and social notes, for a different object, the other day, a number of letters from Downing unexpectedly made their appearance. Though a small portion of those received, we have thought them worthy of extracting from, as they exhibit him in full career, when life and hope were predominant—so soon, alas! to be exchanged for his early tomb. Very many of our readers and friends were his, and we are quite sure his memory is sufficiently cherished to make these few characteristic revivals acceptable here. However small the contribution from his pen,

it is sure to interest. We regret that a much larger collection of these letters has not yet been found.

HIGHLAND GARDEN, Aug. 24, 1846.

MY DEAR SIR: On my return I found your most kind favor, with the MSS. from Dr. Brincklé, and the colored plate of the raspberry, for which I am truly obliged. But I found also so many back letters to be answered immediately, and so many persons here to interrupt me every day, that I have only now been able to sit down to my own private matters.

First I must tell you about the Genesee. We were the guests of Mr. Wadsworth, and were truly charmed with that, the most beautiful inland country, and finest agricultural country that I ever beheld. Imagine a thousand acres lying before his door of the most beautiful meadow that you ever saw, sprinkled and grouped with three or four thousand of *specimen oaks* developed on every side, such trees as you have only seen one or two of in your life in America, and you have some notion of the beautiful natural park that I have feasted my eye upon. The trees are all oaks and elms. The "great oak" measures twenty-two feet round, and is eight hundred to one thousand years old! I was truly proud of this country, and especially of the late Mr. Wadsworth, whose fine perception led him to preserve these trees. They have always stood alone, and were surrounded by forest. The estate of the Wadsworth family in that country is forty thousand acres.

I was much disappointed in not receiving an account of the perpetual strawberry from Mr. B. Indeed, I have not yet decided to use the cut of the raspberry, but will write you about it again. Could he not give me a drawing of the orange raspberry? * * *

Yours with regard,

A. J. DOWNING.

To J. JAY SMITH, Esq., Philadelphia.

HIGHLAND GARDEN, Feb. 19, 1847.

MY DEAR FRIEND: Thanks for your kind favor of the 15th, with the nice note for my domestic notices—just one day too late, however—but will not spoil by keeping. I wish very much that you would make another note, at your leisure, respecting the fine rare trees about Philadelphia that you can call to mind without trouble—giving about their height, &c.—such as the Salisburia and Maclura, at the Woodlands, the Washington Chestnut and Box, at Judge Peters', the large Virgilias which you showed me, &c. &c.

I have sold out all my nursery interest, stock of trees, &c., and am rejoiced at the freedom from ten thousand details, and a very heavy business correspondence, of which I am relieved. I now shall devote my time to literary pursuits altogether, and my home grounds, as the nursery stock is gradually withdrawn, to experimental purposes—including a dash more of your favorite arboretum planting.

When I was at Wiley and Putnam's, about a week ago, I inquired for the copy of your last work, which you kindly promised to leave for me there, but it has not yet been received. I am quite curious to see it, especially after the notice I have seen of it in the *Literary World.*

The *Horticulturist* is going on steadily and well. We want to extend its circulation in your city, and will advertise there. * * *

Think of a New York *farmer*, James Wadsworth, Esq., of Genesee, subscribing one thousand bushels of corn, of his own growth, to the Irish Relief Fund! Won't this tell in Great Britain!

Mrs. Downing joins me in kind greetings to you and yours, and I am,

Sincerely yours,

A. J. DOWNING.

To J. Jay Smith, Esq., Philadelphia.

Highland Garden, April 21, 1847.

My Dear Friend: Your "Domestic Notices" for my Journal were most acceptable, and are already in type. I shall be glad at all times of a continuation, and especially when your convenience serves for the notes on the fine specimens of ornamental trees about Philadelphia. Volume I. shall be at your service as soon as it is complete, *and all other future volumes of mine!**

When I was in Philadelphia a couple of years ago, you gave me a very nice sort of box, made of the *cover of a book* taken off by the binder, and told me at the same time that you had numbers of these covers that were of little use, having been taken off fancy books that you re-bind. If this is the case, you must let me persuade you to send some of these covers, if you have them to spare. I want to use them as a kind of portfolio covers for manuscripts, &c., which accumulate so much on my hands that I find it difficult to keep them in order. * * *

The Spring is wonderfully late, and we shall have an American leap from winter to summer.

Your ever kind invitation to Philadelphia, I assure you, was gratefully received. I, however, mean to be at home mostly this summer, as I wish to do something worth while with my pen, now; and I hope when you come to New York you will run up and see me here, where you know there is always a hearty welcome for you and yours. Very cordially yours,

A. J. DOWNING.

To J. Jay Smith, Esq., Philadelphia.

* The promise here expressed was never forgotten, and we consequently possess all his works published during his lifetime, in the form of presentation copies, with his autograph attached, clothed in terms of the warmest friendship.—Ed.

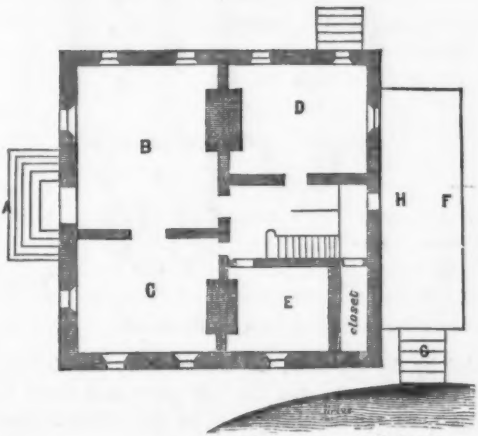
(to be continued.)

# FRONTISPIECE.

THE mansion, of which the northeastern aspect is given in the frontispiece, is being built by me on Tilton Hill, near Wilmington, Del., for C. W. H., Esq.

This hill is isolated, of an unusually symmetrical conical shape, and the tall pines belonging to the old mansion, rise from its summit like a crown of nodding plumes. The view from this fine locality covers a wide range; the spires in Philadelphia, at the distance of 28 miles, can be seen in fine weather; while the horizon, in the opposite direction, at a nearly equal distance, is formed by a bold range of hills almost mountainous in character. Wilmington is spread out at your feet, with its tallest spires much below your stand-point; the undulating country around it is divided by three pretty serpentine streams besides the Delaware, while New Jersey and her pine forests bound the horizon in this direction. There are an unlimited number of building sites, commanding this noble view, and hitherto unaccountably neglected by Philadelphians.

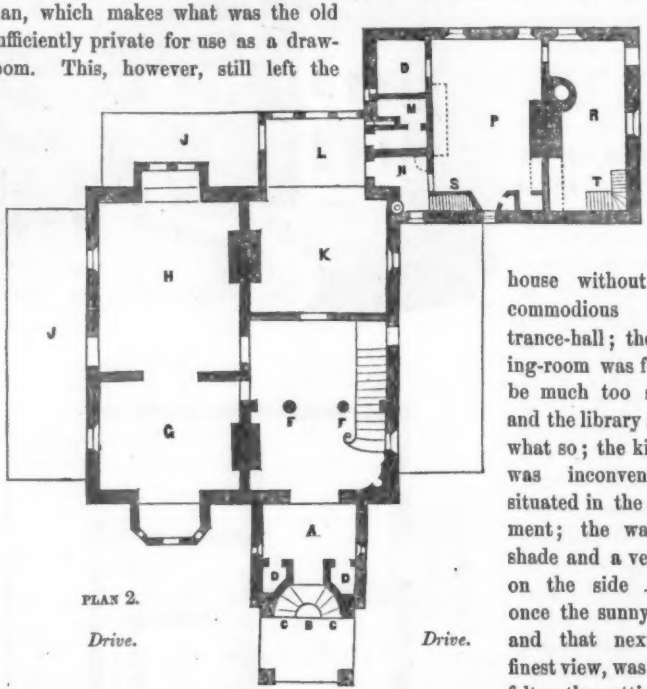
VIEW.




PLAN 1.

The improvement in the present instance consists of large additions to, and the

entire remodelling of an old house. The property, when purchased by the present owner, consisted of a simple stone house, fronting the finest part of the view, 38 feet on all sides, without back-buildings, and having a basement kitchen. You entered by the high bank of steps at *A* (on view and plan); a hall *B* (on plan), 17 × 20 feet, opening to a parlor *C*, 14 × 17. Back of this, were dining-room *D*, 15 × 17, stairs 9 × 17, and a closet and small room *E*, 11 × 12. The present owner, feeling the want of a separate drawing-room, and of a covered outside entrance, constructed a back veranda *F* (on view and plan), and you now enter by the end-steps *G*, plan (seen at *F* on view), and so by the door under the stairs *H*, plan, which makes what was the old hall sufficiently private for use as a drawing-room. This, however, still left the



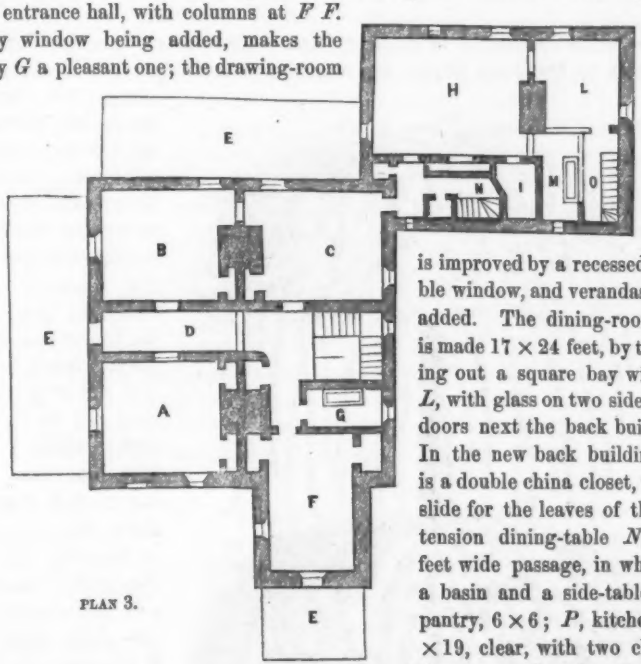

PLAN 2.

house without any commodious entrance-hall; the dining-room was felt to be much too small, and the library somewhat so; the kitchen was inconveniently situated in the basement; the want of shade and a veranda on the side *A*, at once the sunny side, and that next the finest view, was much felt; the attic was crowded by the hip-roof; the second story was deficient in chamber-room, and without a bath-room; and the only place that could be used as a hired man's sleeping-room was the chamber *E*, on the principal floor. These inconveniences it was desirable to remedy, without interfering with the commodious back veranda which had already been added.

The new tower is situated on Plan 2 at *A*. This is to have a carriage-porch, with arches, through which the carriage-drive passes; the porch to be roofed, and to have a balcony on top. Visitors, in descending from a carriage, will step upon

a raised platform *B*, while pedestrians will use the steps *C C*. In the tower, we have a vestibule, with coat-closets *D D*. The chamber *E*, Plan 1st, being thrown into one, with the stairway, and the first flight of stairs turned round, gives a fine entrance hall, with columns at *F F*.

A bay window being added, makes the library *G* a pleasant one; the drawing-room




PLAN 3.

is improved by a recessed double window, and verandas, *J J*, added. The dining-room, *K*, is made 17 × 24 feet, by throwing out a square bay window *L*, with glass on two sides, and doors next the back building. In the new back building *M*, is a double china closet, with a slide for the leaves of the extension dining-table *N*, a 4 feet wide passage, in which is a basin and a side-table; *O*, pantry, 6 × 6; *P*, kitchen, 16 × 19, clear, with two closets, dressers, and sink; *R*, back-kitchen, with wash-boiler, and floor-sink; *S*, back-stairs; *T*, man's stairs.

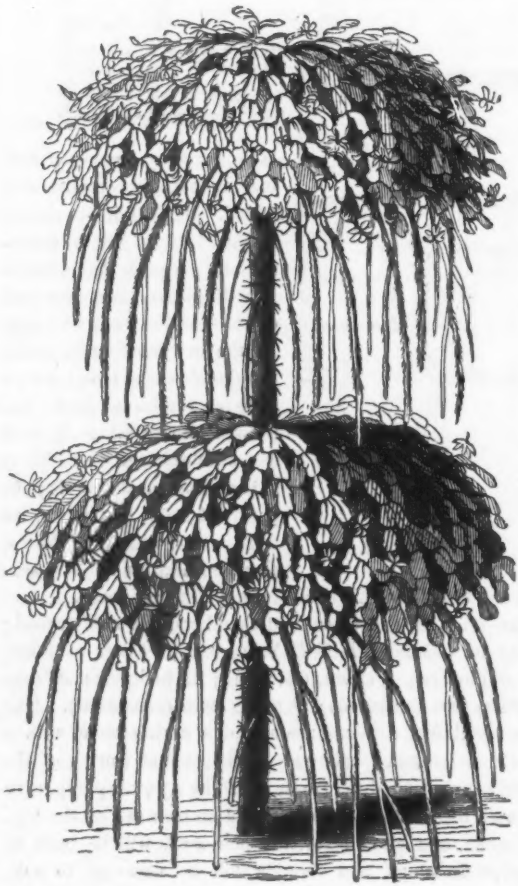
In the second story, Plan 3, *A*, *B*, and *C*, are old chambers, left undisturbed; *D*, a pleasant hall, opening on balcony; *E E E*, balconies; *F*, tower chamber, 12 × 16; *G*, bath-room; *H*, nursery; *I*, closet, 6 × 5 feet; *L*, bedroom; *M*, nursery bath-room; *N*, back-stairs (not continued); *O*, man's stairs (continued). The attics contain, in the back building, a man's room, and a drying-room, with a cistern; in the main, the old attics, much enlarged by the partial raising of the roof; in the tower is a cistern for spring water, to be raised by a power pump, over which is the observatory, with balconies on the sides, and an iron rail on the top.

The old walls being of stone, of a good color, the new walls will be built to match; the cornices, window-dressings, and veranda will be executed in oak, without paint, and oiled. The style is the pure Italian rural. The cost of a similar building, entirely new, would vary from $6,000 to $8,000, according to the degree of finish.

R. MORRIS SMITH, *Architect*,
74 South Fourth Street, Philadelphia.

## GRAFTING THE CACTUS TRIBE.

THE method employed in grafting Cacti is thus described, in the *Gardeners' Chronicle*, by Mr. John Green, one of the most skilful growers of ornamental plants: "I grow four stocks, Pereskia aculeata, Cereus hexagonus, and Cereus speciosissimus; I prefer the latter, on account of its hardy, lasting, and robust habit. I grow the stocks freely till they attain the height that I want them. Some I grow with five or six stems, from one to five feet high; others I grow with one stem, from one to four feet; the short stems I ingraft at the top with the Epiphyllum speciosum and Ackermanni, the tall single stems with E. truncatum, and some from the surface of the pot to the top, all of which is of course according to individual fancy; E. truncatum should always be engrafted high, without which, from its drooping habit, the greater part of the beauty of the bloom is lost. The grafts that I find to succeed the best, are young growing shoots, about one and a half or two inches long. I pare off the outer skin or bark for about half an inch at the base of the graft, and cut what is intended to be inserted into the stock in the shape of a



wedge; I then make an incision in the angles or top of the stock, with a pointed stick made the same shape as the scion. When the grafts are first put in, to prevent their slipping out, I pass through each a small wooden peg or the spine of a thorn; I then cover each with a small piece of moss, and place them in a shady damp house, and syringe them over the tops occasionally in the evening; they will all adhere to the stocks in ten days or a fortnight, and make good plants by winter. By ingrafting the finest kinds of Cacti on the stocks that I recommend above, noble specimens can be grown in a few years from one to ten feet high if required; and the size and color of the blooms are much superior to what they ever produce when grown on their own roots. E. truncatum, by the above treatment, becomes quite a hardy greenhouse plant, and will bloom three months later than it does when grown in the stove on its own roots in the usual way."

Mr. Henry Ford, another successful grower, gives the following detailed account of his practice: "Last year, having several plants of Pereskia aculeata, from eight to ten feet high, which had previously been grafted at the top with Cereus flagelliformis, I inserted at various heights upon the latter grafts of different kinds of Epiphyllum, such as Ackermanni and truncatum, with Cereus speciosus and C. triumphans. The beauty, in June last, of a plant of this kind, which had been grafted in the previous autumn, I cannot describe. In grafting them, I make, with the point of the knife, an incision upwards, into which I insert small grafts, pared a little on both sides, of the kinds required. A small piece of matting is bound round the wounded stem, to keep the grafts tight until they have taken hold, which generally is the case in three weeks' time; the bast is then untied. Where room is no object, I think it preferable to graft E. truncatum upon specimens by itself, as it flowers in the autumn, whereas the other kinds bloom in the spring and summer. The pendulous habit of Cereus flagelliformis allows of its being trained in any form, according to the fancy of the owner. I have grafted Cacti at all seasons of the year, but I find that the best time is from the end of September until November; probably owing to the plants being in a more dormant state. I apply no fire to the house during this period, unless to dry up damp or exclude frost. One specimen of Pereskia aculeata, nine feet high, which was grafted two years ago with E. truncatum, the grafts being inserted three inches apart, along the whole height of the stem, and alternately on each side, has now the appearance of a pillar, and in about six weeks' time will be covered with many hundred flowers. It is advisable, in grafting these plants, to insert the scion upside down, especially if worked upon the main stem; in which case I remove a small piece of the bark from the stock, and fit a thin piece of the desired kind upon it. If this is bound up so as to prevent air from entering between the parts, it will take quite as well as if grafted in the usual way. Where this operation is performed upon spurs, the latter should be trained downwards previously to being grafted, otherwise the grafts, especially those with fleshy leaves, are apt to break off when they attain to any size. I have also grafted E. truncatum upon a stock of Cactus Braziliensis, which makes an excellent standard, as from its

robust habit it does not require any support. E. truncatum succeeds better if suspended, with a ball of earth about its roots, in a wire basket filled with moss, than when grown in a pot."

The brilliant effect produced by plants treated in this manner may be judged of from the accompanying sketch of a specimen growing in the garden of Mrs. Huskisson, of Eartham, where it had been made by Mr. Webster, her gardener.

## STUDY OF NATURE.

BY AMICUS.

THAT there is a vast amount of thought bestowed upon horticultural and kindred pursuits, the pages of the various periodicals devoted to these subjects can fully testify. The study of nature, in all her various phases and phenomena, whether it is pursued in the animal, vegetable, or mineral kingdom, is a source of never ending delight; it enlightens our intellect, expands our ideas, and elevates our sentiments. Dispelling that almost impenetrable mist of self-sufficiency that hangs before our eyes, it teaches us to look from "nature up to nature's God;" enables us to appreciate the bountiful goodness, and form true conceptions of an All-wise Creator. The intelligent mind, and sensitive heart, cannot look upon these glorious scenes and interesting objects without feelings of the deepest emotion. Mark the delight of the astronomer, as with piercing eye he surveys the starry firmament, giving "a local habitation and a name" to unvisited worlds. Truly he "sees God in clouds, and hears him in the wind." See the assiduity of the geologist as he dives into the earth with keen-eyed research, bringing to light the most costly and useful productions of our globe. Look at the botanist, with untiring step rambling over the wide-extended plain, plunging into the entangled thicket, and scrambling up the rugged mountain, in search of his favorite flowers. With what unwearied anxiety the chemist watches the various processes of combinations, precipitations, and transformations which he derives from careful analysis. Observe the rapturous delight of the florist as he looks upon the gradual development of the opening bud; with beaming eye he points out "each varied tint," each nice distinction, "each part of that grand whole" whose favors smile around in luxuriance and fragrance, helped and improved by his own attentive care. "Is there a man with soul so dead" as to remain cold and unmoved at the sight of such glorious scenes as these? Yes, there are many such, with nothing but "speculation in their eye." It is a melancholy fact that the beauties and sublimities of nature may be exhibited in their most brilliant forms in vain to many of the human race. They are despised as trifling, puny, and unprofitable by those that are absorbed in the acquisition of wealth. They are unnoticed by

those who are either degraded by bad passions, or intoxicated with self-indulgence; consequently they have no relish for anything not connected with their own sordid ideas. But he whose mind is alive to the beauty of the works of God,

"Can look abroad into the varied field
Of nature, and though poor, perhaps, compared
With those whose mansions glitter in his sight,
Calls the delightful scenery all his own.
His are the mountains, and the valleys his,
And the resplendent rivers, his to enjoy
With a propriety that none can feel
But who, with filial confidence inspired
Can lift to heaven an unpresumptuous eye,
And smiling, say—'My Father made them all!'"

## STEPHANOTIS FLORIBUNDA.

THERE is no stove plant more easily propagated. Choose cuttings that are short, trim off the lower leaves, and insert the cuttings in sand; place them under a hand-light, on a heated surface; they will quickly root. Pot them off as soon as roots are formed; replace under the hand-light for a week, shading from sun. In a fortnight they may be fully exposed. They prefer a rich open compost with pieces of charcoal intermixed. This plant will endure a temperature of 45°; in winter it should never exceed 55°, unless the sun shines, when it may be allowed to rise to 60°, and as the days increase in length the heat may be allowed to rise to 65°, when the plant begins to put forth short, stubby shoots, and fine, broad, healthy leaves; in a month after growth has commenced the flower-buds begin to show themselves; the heat is then increased to 70° by day with sun.—*Cottage Gardener.*

## SEEDLING OF THE STANWICK NECTARINE.

AT the late meeting of the British Pomological Society, Mr. Rivers reported on a seedling of the Stanwick Nectarine, as an improvement on the original fruit. It is very large, one specimen being eight inches in circumference, and of the shape of a truncated cone; the flesh separates freely from the stone, is exceedingly tender and melting, being somewhat of a buttery texture, like the most delicate of the Beurré Pears; the juice very abundant, and so full of sugar as to be quite a syrup; the flavor, full and rich; the kernel, like that of its parent, is quite sweet, like a Filbert. This fruit was from a plant grown in a pot, and the stone in every instance was cracked.

# RAILROADS IN A SOCIAL POINT OF VIEW.

BY HORTICOLA.

MR. EDITOR—*Dear Sir:* As you have incidentally touched, in the last volume, upon a most important topic—the railroad as a transporter—permit a horticultural correspondent to say a few words respecting its influence in a social point of view.

A good domestic joke used to be in vogue in my neighborhood. A home-body in Newport, R. I., once made a trip as far as Salem, Mass., and ever after descanted on the benefits of travel as a means of enlarging the mind! He did not venture as far as we do in these days, but felt an influence ever after. Everybody now expands, if not their minds, at least their travel, some cause or other moving thereto, till the number of people in motion every day in this Union would make a very respectable army to subdue the Russians at Sebastopol.

What motives call so many people from home I shall not endeavor to inquire; nor shall I condemn any, for I confess I travel hundreds of miles myself for no other object than to see a good garden, nursery, or state or county fair. A few observations, which, if you publish, I shall consider you indorse, may safely be intrusted to your discretion.

Attention is so much directed to the profits of railroads, that it is to be feared the Americans are losing sight of some of the most important points in their conduct. During the month of October I travelled over nearly three thousand miles of railroad, principally in the West. I came to the conclusion that, *for a beginning*, the system was wonderful; but I also am confident that, if a few leading and simple errors in their management were corrected, the public, no less than the stockholders, would benefit greatly, for with the present want of accommodations, I cannot but believe pleasure travellers are comparatively few; if the system were more perfect, this class would so add to the throng of those who travel for business objects, as greatly to enlarge the sources of profit.* Let us see how it is at present.

* It must be confessed that the experiment of railroads as a stock investment has proved a failure. England has lost five hundred millions of dollars in this species of property, and the last semi-annual exhibit reveals a less satisfactory state of things than any before. New England has lost over a hundred millions in the same class of investments; each succeeding year's, and even month's, returns showing a change only for the worse. Scarcely a dozen of her hundred roads now pay regular dividends, and but a solitary one commands a premium in market for its shares. Of the roads in the Middle States, the account is but a trifle more favorable. In the three rich and populous States of New York, Pennsylvania, and Ohio, at least one hundred millions more have been sunk, and the tendency is still downward. At the South, the state of things is no better; and the West, except in some favored localities, shows roads quite as unprofitable and unsalable as in any other part of the country. Gradually, slowly, but surely, is the mighty network of iron, inaugurated but a few years ago with such magnificent prospects, with steam-horse and flashing equipage, and confident hopes of boundless and endless profits, wearing and fading away, and losing its hold upon the public regard.—*Exchange paper.* [All this state of things might be greatly improved by giving a little more inducement to travel.—ED.]

Beyond the mountains I found no car with high-backed seats to support the head, though all of them nearly are employed for night travel. One scene will suffice to describe the state of discomfort which exists with more or less force *every night* from the seaboard to the Mississippi; and I will give it exactly, and without the least exaggeration, as I experienced its inconveniences, to use a mild term. A fatiguing day's ride was succeeded by a chilly night, and our party was compelled, to make certain connections, to take a night train. It consisted of three cars, of sixty passengers each; every seat was filled, and to prevent danger, as was alleged by the conductor, each back door was locked. A wood fire was made at starting, two poor lamps were lighted, and we all settled down to enjoy a night's "rest" as best we could. Most of us fell asleep, but wakefulness on my part induced watchfulness; very soon the car became insufferably warm and close, inducing sounder sleep on the part of most. The back door could not be opened. and the windows swelled so much with the moist breath of the sleepers, or were deranged by age, that they too became immovable; the front door admitted such a rush of cold air that the sitters near declared they should die if it were opened. The conductor admitted that the circular ventilators in the top were out of order, and that there was no remedy!

I bore this as patiently as the others, only slightly remonstrating, when I was informed the scene was nothing more than usual. At twelve o'clock the two miserable lamps simultaneously went out, just after a fire had been made up. The smoke from the lard pervaded everything; the stove got red hot, and the conductor disappeared into another car. When the stench from the smoking lamps, the heat from the stove, and the influence of so many breathers were concentrated, you may imagine the condition of those so unfortunate as to be awake! At the next stop the conductor entered, and attempted in vain, by the burning of a great number of the most offensive kind of sulphur matches, to enlighten us; he opened no window or door! Need I say that when daylight exhibited us to each other, we were a sorry sight; the women were yellow and pale, and looked like hospital cases; the children were cross and unhappy; I was—what shall I say?—distressed for my companions no less than for myself, mortified at this phase of our civilization, and determined to address the controllers of our comfort in this public manner.

If managers consult their pockets, this system will not do; as you say, all who can will stay at home, while, if everything were made comfortable, all who could would travel. Calculate the difference of receipts!

One other crying evil, that cannot long remain unremedied. The roads rent their eating saloons at a high rate to parties who supply meals (mostly at truly inconvenient hours.) This high rent obliges them to study the utmost economy of supply; the result is, in thousands of instances, improper, insufficient, and unwholesome food. The butter, throughout the fertile West, at these eating stations, is often such as is used in the West Indies; the sugar, the tea, the

coffee, is of the worst description, while the time allowed to partake is often too short, rendering the profit to the vender beyond calculation.

Now, Mr. Editor, *this is all wrong.* In a social point of view, it is highly important that our people should travel, and mix, and see each other. No one does so without an expansion of mind; I am sorry to say, few do so without imminent risk of health, to say nothing of those accidents which are constantly recorded, but of which the majority are never publicly known.

If it were not the interest of the companies to remedy these things, we might well despair. It can be demonstrated, that it will be cheaper to make some arrangement for sleepers than to place passengers in uncomfortable attitudes for a long night; because more will travel, and more will pay. A car without ventilators should be indicted; a director, above the conductor in authority, should travel the roads, and see how things are managed. The press must be brought to bear upon this subject, or we shall have to give up travelling for pleasure.

[We indorse our correspondent's general statements with regret, and have, in publishing his communication, no other object than mutual benefit to the public and the railroads. We witnessed a night scene in every respect the counterpart of the one he describes. Further, we saw a conductor between Cincinnati and Columbus, on the slightest inspection of the ticket of a foreign gentleman of fortune and position, order him in a brutal manner to get into the emigrant train; a remonstrance produced an examination, when the ticket was found to be for the first class. At the Columbus station, we saw in the night an invalid beg to be allowed to purchase a glass of milk, the only thing he could take; though a pitcherful was on the counter, this was denied; and on the remark of a bystander that it was remarkable in so fine a milk country no milk could be purchased, he insolently observed, "That is my way of doing business." So easy would it be to make the slight required reforms, that we feel it to be a public duty to record our experience and opinion. There must, too, at length be some accommodation for invalids; a small car, furnished with comfortable sittings, &c., could be rented daily so as to pay for itself in a very short time. We have so much confidence in the good sense of our people as to feel assured the reforms will ultimately come; would that our humble efforts might hasten them.—ED.]

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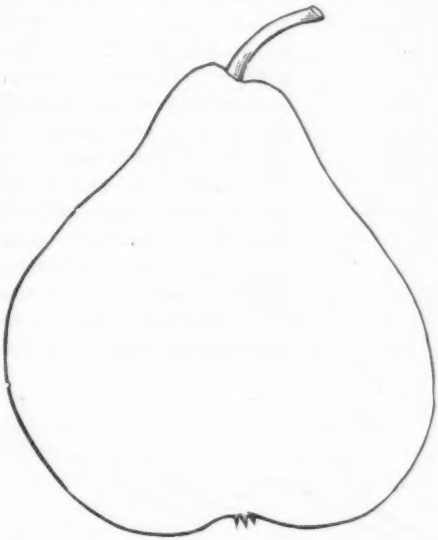
SPORTS.—A Scotch correspondent tells us of a case as strange as the strangest yet recorded, and more puzzling than most.

We learn that he has a gooseberry bush which bears indifferently, on each small twig, red or yellow berries, the red superior in flavor to the yellow, and both dissimilar; the reds, too, are unlike, for some are rough, and others smooth; and the yellows bear seed that is red. Had a handful of yellow berries been thrown in among the reds, and accidentally stuck to the branches, the mixture could not be more complete.

## NEW EARS.



No. 1.

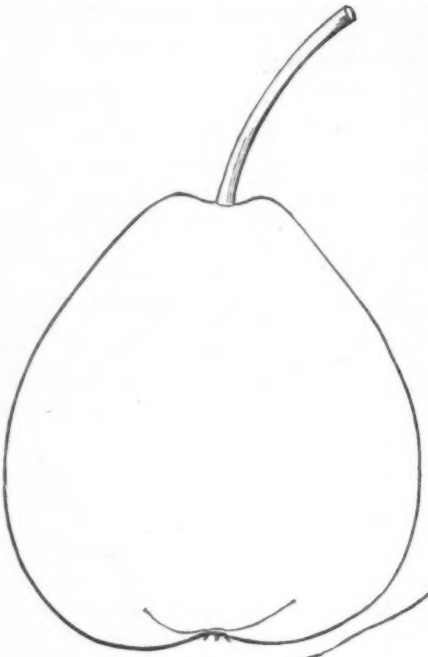
No. 1. BEURRE MILLET.—Skin dull green, with a dull reddish blush; ribbed or knobby. Juicy, melting, with a vinous subacid, refreshing taste; very good. Tree not a strong grower, but healthy.—B.

No. 2. BEURRE NANTAIS, or BEURRE DE NANTES.—Skin yellow with a crimson cheek, smooth and faintly dotted with greenish or gray, of fine texture, buttery, juicy, highly perfumed and sugary; very good.—B.

No. 2.

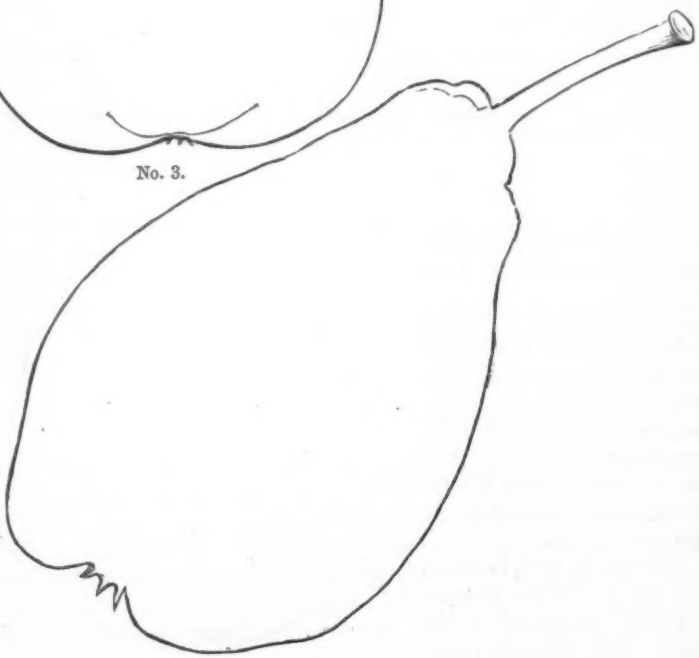
No. 3. UWCHLAN. SYNONYMS, DOWLIN; ROUND TOP.—(Pronounced *Uke-lan.*)—This delicious pear originated on the premises of the Widow Dowlin, near the Brandywine, in Uwchlan Township, Chester County, Pennsylvania. Fruited for the first time in 1851.

*Size* from 2¼ by 2½ inches, to $2\frac{7}{16}$ by $2\frac{5}{16}$. Form obovate, somewhat compressed at the sides. *Skin*, cinnamon russet,



No. 3.

interspersed with patches, irregular markings and dots of fair yellow, giving the exterior a mottled appearance of russet and yellow. *Stem* from 1 to 1⅜ by ⅛ of an inch, inserted by a slightly fleshy termination, with little or no depression, and occasionally on to a flat surface; the stem has a peculiar tendency to form wood buds, and on the stem of one specimen there were three well developed buds. *Calyx* rather large, with the segments partially reflexed, and set in a wide, moderately deep, sometimes irregular basin. *Core* me-



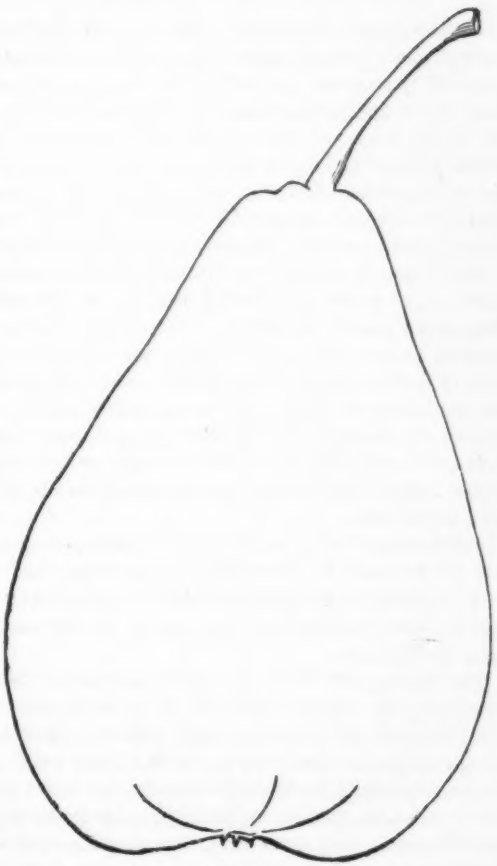
No. 4.

dium. *Seed* black, $\frac{1}{3}$ of an inch long, $\frac{1}{4}$ wide, and $\frac{1}{10}$ thick, with an angle at the obtuse end. *Flesh* fine texture, and buttery. *Flavor* delicious and saccharine; *quality* "very good." *Maturity* third week in August.

*Old wood* grayish brown. *Young shoots* yellowish brown, with short jointed prominent buds.—W. D. B.

Nos. 4 and 5. GRASLIN (sometimes spelled Grashlin).—Large, 4 inches by 2¾. *Form* long obovate. *Skin* yellow, with many green russet dots and patches. *Stem* 1½ inches long by ⅛ in the middle, gradually thickening towards both extremities, inserted by a fleshy termination without depression, with a fleshy lip on one side. *Calyx* open, long segments, set in a small, shallow, furrowed basin. *Core* medium. *Seed* often abortive. *Flesh* fine texture, buttery. *Quality* "very good." *Maturity*, eaten October 22, 1855. (Grown by Mr. Buist.)

No. 5. Same as No. 4. (Grown in France. Eaten November 15, 1855.)



No. 5.

Specimens of the fruit of this fine foreign variety were exhibited by Mr. Robert Buist, at the October meeting of the Pennsylvania Horticultural Society; and on the 15th of November, fine specimens were received from Paris by a steam vessel.—W. D. B.

# A DAY AT KEW GARDENS, LONDON.

## No. I.

BY THE EDITOR.

FORTIFIED with a letter of introduction to Sir William J. Hooker, who fixed the hour of one o'clock to conduct us round these wonderful gardens and museum, it may well be supposed punctuality was among the virtues enlisted. The letter was from one of our most distinguished American botanists, a friend and correspondent of Sir William's, and most happily did it accomplish the object of affording the writer a day of unmingled enjoyment. At the appointed moment, our fascinating guide entered the gate—and, in company with an English lady and gentleman, who had earnestly solicited to be taken along to view these national gardens under such an instructor, we commenced our explorations.

Sir William J. Hooker, the "Director," is a Scotsman of prepossessing appearance, tall, of gentlemanly bearing, and full of information, which it seems to be his greatest pleasure to impart. He was frequently recognized and shaken by the hand by men of eminence and station, who, seeing his previous engagement, were content to follow in our wake and listen to his words of wisdom and information. At one moment, a gardener, who was going out on an exploring expedition of three years' duration for new plants, stepped up for his final instructions; they were brief and to the point, and the employer and employed parted as if for no longer a period, and with no more ceremony than if their separation was to have been for an hour.

"We will go first to the Economic Museum," said our polite guide, "that you may see my *results*." What follows is taken from our own memoranda as well as from a "guide" to the gardens issued in 1855, where we often find the very words used in verbal explanations; thus serving to complete a reminiscence which can never be forgotten.

The Museum was evidently a great hobby with the "Director," and we can perceive by the new catalogue that it so continues. It is a depository for all kinds of useful and curious *vegetable products*, which neither the living plants of the garden nor the specimens in the Herbarium could exhibit. It renders great service, not only to the scientific botanist, but to the merchant, the manufacturer, the physician, the chemist, the druggist, the dyer, the carpenter, and cabinet-maker, and artisans of every description, who may here find the raw material (and the manufactured article), employed in their several professions, correctly named, and accompanied by some account of its origin, history, native country, &c., either attached to the specimens or recorded in a popular catalogue. Nobly has this project been carried out, and the aid from every source has been an evidence of its utility and popularity. At this moment, a number of our friends and neighbors are preparing a collection of specimens of American woods for this museum,

under the direction of Dr. William Darlington, of this State. The British Government have given facilities of transport for everything going to Kew. The elder Mr. Cunard came up for a friendly shake of the hand, and we were introduced to him as "My kind friend who transports for me without any charge whatever."

To a commercial nation, ready to seize upon every article that can be turned to economic account in manufactures, this scheme has proved of immense importance; textile fibres, gums, resins, dyestuffs, starches, oils, woods, tannins, drugs, food for man, basket-work, all the products of straws and grasses are assembled. Let us listen to Sir William's fluent talk, which cannot dwell long on anything, so numerous are the objects we have to view.

Here are the fruits of the yellow water-lily, nuphar lutea; the leaves are said to be styptic; the flowers have a brandy-like smell, and the pistil is shaped like a flask, whence the name of "Brandy-bottle." Next is the poppy family. Six millions and a half pounds of opium are annually bought up as a source of revenue to the East India Company. Little more than one hundred thousand pounds is required for England per annum, but it is calculated that twenty millions of pounds are annually consumed by mankind. You see all the processes of manufacture in the plant, the pictures, the implements, and the article in all its stages.—Horseradish-tree family, order moringaceæ. This natural order, of doubtful position, is now generally placed near the violet family; it is confined to one genus, moringa. Ben-oil, pods and seeds of moringa pterygosperma; an Indian tree, cultivated in Jamaica. Its pure fixed oil is much used by perfumers on account of its not easily becoming rancid, and by watchmakers, because it does not freeze. The roots have exactly the flavor of horseradish; pods used in curries.—Manna of Mount Sinai; it is an exudation from tamarisk mamifera, occasioned by an insect, a species of coccus which inhabits the shrub, and this manna consists wholly of pure mucilaginous sugar.—Here is a native shoe-blacking! among the cottons; the beautiful flowers of Hibiscus Rosa-Sinensis are used by the Chinese to blacken their eyebrows and their shoes. Soapwort, saponaria officinalis; bruised and agitated in water, it raises a lather like soap, and may be used as a substitute for it. Cotton specimens of every description, and its manufactures. Spun to the fineness of eleven hundred and forty-five miles per pound, it is too fine for anything but to be looked at. You are an American, and want to see something *new*. —This is the Boab, or monkey-bread fruit, adansonia digitata; the product of one of the most remarkable trees in the world. The wood is pale, light-colored, and so soft that in Abyssinia the wild bees perforate and lodge their honey in the trunk, which honey is considered the best in the country. On the west coast, its trunks are hollowed by the natives, and their dead deposited therein, where they become mummies.—Nuts of the Kola, sterculia acuminata, Africa and West Indies; they have a pleasant, aromatic taste, and are much esteemed by the negroes as promoting digestion; they also prevent sleep, and are used by the native watchmen to keep themselves awake. Bags of the sterculia villosa; they

are quickly made, by steeping logs and stripping off the bark; used for conveying goods in the Goa country.

Jute paper, excellent and recently prepared from old gunny bags; from the corchorus capsularis. A manufacturer of the finest pocket-handkerchiefs has discovered in the fibre of the despised gunny-bag, a material of immense value—you see the great fineness of the handkerchiefs.—Tea family. Here is "the Old Man's Eyebrow Tea;" it is done up, as you see, in short twisted sticks, and perhaps bears allusion to the legend of some Chinese saint tearing off his eyebrows and throwing them on the ground, where they sprouted into tea-plants; representations of this wonderful transformation you see on those Chinese screens!—Order, aurantiacæ, orange family. They are looked upon as the golden fruits of the Hesperides, whence Jussieu called this family Hesperideæ. Here are all the oils of the family, and the toothpicks and walking-canes so much esteemed, made from the wood in Madeira and Rio Janeiro.—Product of the butter or tallow-tree, pentadesma butyracea; a yellow fatty substance.—You see all the products of the coca-tree, used extensively by the laboring classes, especially the miners of Peru, for its remarkable powers in stimulating the nervous system; in this respect, resembling opium.—And here among the maple sugars, &c., is *an American clothes peg!* made of maple-wood (an article still a great curiosity with many English people from its strong contrast to their clumsy peg made in three pieces and bound with tin, which rusts, and iron-moulds the clothes!).—Look at the various products of mahogany! A single log has been sold for fifteen hundred dollars.—Zante currants; they are a grape of the vitis vinifera, and originally from Corinth.

So we proceed, talk succeeding talk, and every word having its meaning. The order geraniaceæ, Cranesbill family. You know the geraniums and pelargoniums, but do you know that one species, the spinosum, is so resinous that the dead stems become masses of resin in the sands of South Africa, retaining their form, and they burn like a torch, giving out a most agreeable odor?—Here you see the large cotyledons of simaba cedron, from New Granada, where it is considered to supersede the sulphate of quinine.—The wood and jujubes of zizyphus vulgaris. Z. spina Christi is considered by some to be the thorn with which our Saviour was crowned.—Pease earth-nuts; tubers of lathyrus tuberosus, much eaten in Germany during the period of the potato panic.—Flower buds of sophora japonica, much used as a dye in China and Japan.—Mimoseæ; ordeal, or red water-tree bark. The red juice is given in large draughts to those accused of crime, and those who can withstand the ordeal, are innocent, but the priests know how to mix it to kill or not!—Mangrove family; the branches send down aerial roots; the seed germinates while still attached to the parent, and falls down a young plant.—Monkey-pot family; the lidless capsule is used for catching monkeys. Sugar is put in the small opening which enlarges within, so that when the animal has grasped the sugar with his paw, he is unable to extract it, and the very heavy seed-vessel acts as a clog to him, from which he cannot disentangle himself.

—Water-chestnut family; some with a little imagination, or a very little assistance from a knife, are very much in the shape of a bull's head, are much eaten.—Papaw fruit, carica papaya, South American. The juice of the entire plant has the property of making old and tough meat tender.—When we visited Kew, Sir William was very desirous of procuring the Chinese rice-paper plant, and we see he has lately succeeded. It is the pith of the aralia papyrifera, from Formosa, cut into small sheets, and it is a great article of commerce with the Chinese.—Prepared coffee-leaves, much used in Sumatra, instead of the berry.—Chinese insect wax, or pela, with the insect; this wax is imported from China, and candles are dipped in it, to render their exterior hard.—Gutta percha; the tree, the juice; numerous manufactured articles from it; in fact, the whole processes are before you.—The tree that produces *Cuba bast* for tying up cigars has not yet been procured, and is much wanted.—Jumping or moving seeds. Lobes of a capsule of some euphorbiaceous plant, from the Pacific side of South America, which move by jerks, and have almost a jumping property. This is found to be occasioned by the sudden and peristaltic movements of an insect within, and of which the egg must have been deposited in the state of the flower, for the shell has no perceptible aperture or wound whatever.

But we must not trespass too much, to-day, on our limited space; next month some still more remarkable things may find a place, with the history of our English lady going down on her knees with parasol hoisted, fairly overcome with fatigue, as, indeed, any one might well be who attempted to follow the indefatigable "director" from one o'clock till a late sunset.

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FOREIGN SEEDS AND ROOTS.—Mr. Browne, who was sent out to Europe some three months since, for the purpose of procuring seeds and agricultural information for the use of the Agricultural Department at Washington, has returned. He has travelled during his absence through portions of England, France, Belgium, Holland, Prussia, Hamburg, and Denmark, having made arrangements for the purchase of various seeds, roots, and cuttings suitable for the several climates and seasons of the United States, some of which have already been shipped, and will soon arrive. The seeds, it is understood, are principally to be distributed among members of Congress and the different agricultural and horticultural societies of the Union.

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SECOND CROP OF BLACKBERRIES.—Mr. Thomas Smith, of Chappaquiddick, near Edgartown, Mass., recently exhibited in that town a quantity of dark red blackberries grown on his premises, being the second crop this season.

# NOTABLE THINGS IN THE PARIS EXHIBITION.

(FROM CHAMBERS'S JOURNAL.)

SOME of the things exhibited are well worth attention. There is Beaumont and Mayer's thermogenic engine, which heats water and generates steam without fuel or fire. As yet, its applicability to mechanical purposes is not apparent; but ways have been found of turning it to account. It is kept fully employed in heating the chocolate sold in thousands of cups; this is without any breach of the law that prohibits fire within the building. And the Emperor ordered one to be sent to the Crimea, where, in case of the troops having to pass another winter, it would serve to heat soup, coffee, or water, whether fuel was to be had or not—no unimportant consideration during a campaign. It may supply heat to the cooking-galley of a ship, as well as to the chocolate-establishment; and thus a source of danger from fire on shipboard may be avoided.

The construction is simple enough. A boiler is made, traversed by a conical tube of copper, 30 inches diameter at the top, 35 inches at the bottom, inside of which a cone of wood of the same shape is fitted, enveloped in a padding of hemp. An oil-vessel keeps the hemp continually lubricated, and the wooden cone is so contrived as to press steadily against the inside of the copper, and to rotate rapidly by means of a crank turned by hand or horse-power. The whole of the boiler outside of the copper cone is filled with water. Thus constructed, the machine, with 400 revolutions a minute, makes 400 litres* of water boil in about three hours by the mere effect of the friction of the oiled tow against the copper. When once the boiling-point is reached, it may be maintained for any length of time, or as long as the movement is continued. It is quite easy to keep the steam in the boiler at a pressure of two atmospheres, where, besides the uses above mentioned, it blows a whistle as lustily as any locomotive.

There is also the process for preserving vegetables, and another by which fresh meat may be kept perfectly sweet, for perhaps an unlimited time. There are legs of mutton, loins of veal, poultry, &c., in the Exposition, which were prepared three years ago, and are still as good as on the first day of their treatment, and show no signs of alteration. They have all the odor and appearance of meat recently killed, no taint or shrinking being perceptible. There are fruits, also, preserved in the same way—bunches of grapes, melons, apples, &c.; and vegetables, among which a cauliflower is as plump and bright with bloom as if but just brought from the garden. What renders the process the more remarkable is, that no pains are required to exclude air from the things preserved, a wire-screen alone being necessary to keep off flies and other insects. A three years' trial may, perhaps, be considered decisive; and now there remains to see whether place

* A litre is about a quart.

or climate affect the result. If not, the discovery—if such it be—may be regarded as one likely to prove highly beneficial. One of our most eminent savans was offered a leg of mutton on his departure from Paris, that he might convince his friends in England of the reality of the process for preservation. What the process is, remains a secret; but we have heard whispered by a distinguished chemist that it consists in nothing more than brief immersion in very weak sulphuric acid. The acid, it is said, so coagulates the albumen, that a coat is formed on the surface of the joints, impervious to the air, and without affecting the flavor.

## GOSSIP FROM THE NORTHWEST.

BY J. F. TALLANT, M. D., BURLINGTON, IOWA.

Dear Sir: Many of your friends and readers here, in what was once the "Far West," are disposed to pick a crow with you for preferring the cram and jam of the Illinois State Fair, in Chicago, last October, to the cosy and quiet chat which you might have enjoyed with a dozen or two harmless enthusiasts in pomology, had you accepted the pressing invitation which was sent you to mingle with us at the meeting of the Northwestern Fruit Growers' Association, in September last. Very certain we are that you would have seen much more comfort and enjoyment here than among the almost terrific multitude which was gathered together in Chicago.

Your predecessor, Mr. Barry, is kindly disposed to praise us somewhat in your November number, and to intimate that some of our trees, and pears in particular, grow luxuriantly and bear rather large fruit. With his large experience, having visited most of the pear-growing regions of Europe, he ought to know, after so favorable an opportunity of inspecting specimens as was afforded at the meeting of the Fruit-Growers' Society, though we were not aware of the fact before, except as informed by Eastern cultivators. I have now before me a shoot taken from a Bloodgood pear-tree dwarfed on quince, that is upwards of an inch in diameter at the base, and more than seven feet in length, being crowned with large branching limbs. It is of this summer's growth, and was a truant, not having been detected among the foliage of the tree till the leaves had dropped. Is such a growth common with this variety?

Many of the trees in the garden from which this was taken, are upwards of eleven inches in circumference at the surface of the ground, and more than fifteen feet in height; well furnished with limbs from base to pinnacle of the pyramid or cone, and are by no means the "bony" specimens you have doubtless seen in many gardens. They are on Angiers quince, were one year from the bud when set out in the spring of 1851, and have borne fruit of unusual size and beauty

the two past seasons. A Beurré Diel tree, that bore some five dozen pears this summer, produced specimens weighing twenty ounces, or 1¼ lb. avoirdupois. The total weight of the fruit was sixty-five pounds, or upwards of a pound each, on the average. The soil here abounds in silex or flint, and was known as Sho-ko-kon, or the Flint Hills, by the Indians, and was a place of resort by them to obtain flints for their guns. Can it be this ingredient in the soil which proves so favorable to the growth of fruits? Certain it is that, at this exhibition, the fruit of this locality was finer than almost any other in the country.

Mr. Barry was so much in demand when here, and found so many persons anxious to avail themselves of his superior knowledge and experience, that it is not surprising he should have erred somewhat in some of his observations. It was not the Brandywine pear that he saw flourishing so well on the quince, but a twin brother, I believe, the PENNSYLVANIA, a variety well worthy the name of the noble keystone State. Many of the pears weighed ten ounces, but were past their season at the time of the Fruit Growers' meeting. This variety may be safely set down as sure to succeed well on the quince at the West.

Can we not persuade some of the sagacious fruit-growers of the East to come this way and establish a large pear plantation in some of the many favorable localities to be found hereabouts? The past five years have settled the question beyond a doubt, that pears will be a profitable crop on the quince, and any one who inspects our trees and fruits at the proper season must be satisfied of this. Nowhere will the pear bear more uniformly and abundantly, or look more thrifty and healthy, or produce larger or better flavored fruit—that will command the very highest price in the Atlantic cities. It is true that several years will be required to mature a crop from trees just planted, but while they were growing, the cultivator could do a very profitable business by raising strawberries for the Chicago market. This fruit does remarkably well here, requires but one season to be in market, and the Chicago demand could not be supplied by any one or dozen growers. The strawberry is in its prime here at the end of May, but around Chicago it does not ripen till the middle of July. No other point is so favorable as this for this business; the northern railway connections with Chicago being too far north, and the southern points being too remote. At this distance, the fruit could be gathered during the day, sent forward by the night train, and be in market the next morning. Last July, strawberries bore the *moderate* price of twenty-five cents a dish at the fruiterers, or fifty cents per quart in market, in Chicago. As heavy a business could be done in this line, as the Cincinnati growers have been doing for years past.

BURLINGTON, IOWA, *Nov.* 12, 1855.

# Editor's Table.

AMMONIA IN HOTHOUSES.—When it was discovered that ammonia is derived from the atmosphere, and that it descends in rain, a new light was thrown upon the refreshing and invigorating effect of heavy showers, which act not merely by their water, as once was thought, but also by the carbonate of ammonia which they bring down. So far as agriculture is concerned, this is, however, a truth devoid of possible application, because the volatile carbonate cannot be advantageously used artificially through the agency of the atmosphere. But it is otherwise with gardeners, who have to create an artificial atmosphere in a confined space. It is not a little remarkable, then, that so simple an agent, so easily procured, and applicable with so little trouble, should scarcely ever have been employed in hothouses in the proper manner. Where it has been used, it has been almost invariably when dissolved in water and applied with a syringe. Professor Lindley at length gives the proper mode of application; doubtless many have thought of it, but the present will, we believe, be the first correct instructions on the subject in this country.

The carbonate of ammonia of the atmosphere is suspended, dissolved in invisible vapor. In this state it is incessantly in contact with every part of the foliage. When rain falls, the ammonia disappears for the moment, passing down in the rain drops to the ground, and thence arriving at the roots of plants. But if it is in gardens first dissolved in water, and then thrown upon plants with a syringe, natural conditions are by no means imitated. It reaches no part except that on which the water falls, half the upper surface and nearly all the under surface of the foliage is missed, and it is scarcely detained even upon the parts which the water actually touches. The proper course is to throw it into the air in the form of gas; this is easily effected in the following manner:—

When a greenhouse or hothouse is shut up, warm and damp, rub upon the heated pipes, the flues, or a hot piece of metal, a small piece of carbonate of ammonia *with some water* (not dry); the peculiar smell of smelling salts will be instantly perceived, and, if this is done at the two ends of a house, as well as in the middle, the air will rapidly receive a sufficient charge of the substance. After it has been allowed to remain about the plants for a short time, some gardeners would syringe their houses freely; but it is doubtful whether that is the best plan, provided the air of the house is naturally damp. The effect of this simple application is very remarkable, quickly producing a visible change for the better in the appearance of the plants.

But *caution* must be used in the application. A piece of carbonate of ammonia as large as a quarter of a dollar is sufficient for a charge in a stove 40 feet long; and it is indispensable that it should be volatilized by *rubbing it in water*, otherwise its causticity is too great, and leaves are burnt.

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ANSWERS TO CORRESPONDENTS.—(A. C. IVY.) By a little management you may have your ivy to cling perfectly. Whenever a branch grows without attaching itself to the wall, cut off the loose part close to a leaf, beneath which the attachment is perfect. Continue this process till the wall is covered, and ever afterwards cut away all hanging branches, or by the force of the wind they will detach others besides themselves. When the ends of growing

ivy once lose their hold, they are never still sufficiently long to be able to reattach themselves; but, by cutting away to the point of contact, they are enabled to proceed in the new growth, and thus to hold fast. Cut off the hanging branches as soon as seen; for, by swinging about in the wind, the injury is constantly increasing.

(P. W.) MIGNONETTE, in its native country, Barbary, is a shrub, and not an annual as with us. It should be sown in a light sandy soil, as when it is grown in a stiff soil it loses its fragrance. When it is wished to obtain the tree mignonette, a vigorous plant of the common kind should be chosen from the seedlings sown in April, and put into a pot by itself; all the summer the blossom-buds should be taken off as fast as they appear; and, in the autumn, the lower side-shoots should be taken off, so as to form the plant into a miniature tree. It should afterwards be transplanted into a larger pot, with fresh soil formed of turf broken into small pieces, and sand. The plant should be kept in a greenhouse or warm room all the winter, and regularly watered every day, and in the spring the stem will begin to appear woody. The second summer the same treatment should be observed, and the following spring it will have bark on its trunk, and be completely a shrub. It may now be suffered to flower, and its blossoms, which will be delightfully fragrant, will continue to be produced every summer for many years.

(T. A.) Many gardeners are very particular in planting a tree with the same side exposed to the sun as it had in its former position. Some of them say, if this is not attended to, the plant loses a portion of its strength in trying to get its branches into the same position with regard to the sun as it was before. Whether this is so or not, as no injury can result from thus planting, we can see no reason why it should not be practised. A slight mark on the north side before removal would be all the trouble.

(A. A. HULL, Mount Pleasant, O.) 1. The sweet and sour apple—sweet in one part and sour in another—was noticed so long ago as in *Cox on Fruit Trees;* also in Thomas's *Fruit Culturist*, and in Elliott's *American Fruit Grower's Guide.* But the notion that it is produced by the junction of sections of a bud, as you suggest, from a sweet and sour variety, is entirely a fiction. The "sweet and sour" apple is a monstrosity raised from seed, and is propagated by grafting or budding in the usual way.

2. Different kinds of raspberries, when planted in close proximity, will fertilize each other. No evidence, however, of this cross fertilization will be manifested by the size, form, color, or flavor of the berries thus produced. But when the seeds of such berries are planted, then the resulting plants may be expected to show the effects of the hybridization.

3. American arborvitæs, to produce a "windbrake," may be planted two and a half feet apart. To raise them from seed, practise the same method as recommended for the hemlock in the last volume, page 517. Where you can procure the small plants at one cent each (say from Maine), this will be a more rapid mode.

"WHAT IS A REALLY GOOD PLANT?" (A. M.) We should say that there are four points or properties to constitute a really good plant: first, fine evergreen foliage; second, handsome sweet-scented flowers; third, abundance of bloom produced in succession for a long season; and fourth, easy of culture and propagation. And, for an example, we would instance the Stephanotis floribunda as possessing all these.

QUESTION. I have a large dog-rose, on which a skilful gardener has budded many kinds of fine roses the past July. The buds have all taken. Should it be strawed up, covered with cedar boughs, or left to the hands of nature? S.

If the buds are of very scarce and valuable kinds, which it would be a great loss to lose, wrap some cotton around each bud, as occasionally they will get killed in winter. As a rule, buds of this kind are left to themselves, and generally survive to give a good account of themselves the next season.

"PARSLEY." Nothing agrees better with parsley in old worn out garden soils, than half burnt weeds and rubbish intermixed with the deeper subsoil.

(A SUBSCRIBER, Newark, N. J.) That *enormous* pear shall be figured as soon as possible, if, indeed, it will not overrun one of our pages!

DR. WARD will accept our thanks for a large basket of winter pears in fine condition. The "Vicar" we found delicious.

(W. A. G., New Orleans.) The barrel of oranges and pecan nuts came to hand in the best condition, and were as fully appreciated as you could desire.

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MARIETTA, *Penn'a.*—DEAR SIR: A few days ago I examined, for the first time, though well aware of its existence, your elegant horticultural publication, and am so highly pleased with its contents, beauty, and value, that I feel disposed to exert myself in its favor. This locality is proverbially the most fertile and wealthy in the State (Donegal Township), and particularly adapted to the cultivation of fruit. No place can be found where the peach, apple, &c., grow more luxuriantly than on our alluvial banks of the Susquehanna, or where the fruit is produced more perfect. We frequently escape the effects of late spring frosts, when further inland they are very destructive to the early blooming kinds. The peach here attains its largest size and highest flavor; but, owing to its vigorous growth, the tree is not long lived.

With all the natural advantages possessed by the owners of the soil for the profitable culture of fruit, comparatively little attention is paid to it, and they are suffering by the neglect. Why this apathy in a matter that would so greatly enhance their yearly profits, and so materially add to the comfort of themselves, their families, and neighbors? Our farmers are intelligent and enterprising, and ready to embark in anything that will pay. It must be that they are uninformed upon the subject of the profits of fruit culture, and the superior excellence of the new varieties in comparison with the old familiar sorts. That it is the want of information on the subject I am assured from the following circumstance. Last spring, I mentioned to some friends that I was about ordering some fruit-trees, when they immediately requested me to order also for them. Others heard of it, and I soon had orders amounting to over $400. These have all been planted in our town and on adjoining farms. This is a beginning made with scarcely an effort, and I think the introduction and general circulation of your interesting and valuable periodical would tend materially to advance the good work. Yours, &c. JOHN JAY LIBHART.

[This is the right spirit. Hundreds of communities within reach of profitable sales in Philadelphia only want a little stirring up by such a person as our correspondent, to be competent to pour into our market thousands of dollars' worth of good fruit to their own great advantage and the health of our fellow-citizens. The good work has begun; it shall be the business of the *Horticulturist* to foster it.—ED.]

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THE HORTICULTURIST.—DEAR SIR: * * * I have been looking over several publications of merit respecting horticulture lately, and am greatly interested to observe how much *in advance* the work you now have in charge seems to have been, on many of the topics discussed. Reports are often repetitions of the pages of your periodical. Year books copy extensively from your recent pages. State agricultural reports are likewise followers; they often are only pourings "from one bottle to another." If the whole of the *Horticulturist* were burnt in the grandest of Suttees on the funeral pile, it would only be like cutting down an oak after its acorns have sowed a forest. Yours, PEREIRA.

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CHISWICK EXHIBITION.—All our readers who remember the splendors of the Chiswick Horticultural Exhibitions, near London, will regret to hear they have been given up as unprofit-

able, nay, a serious loss. They will be superseded by the system of enlarged exhibitions in London, as of old. The cheerful music, the gay and well-dressed throng of visitors, the beauty of the gardens, the fruit, and the flowers, united to the pleasures of the promenade in the fresh air (when it did not rain!), were beyond description.

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Peter Collinson and Brown, the landscape gardener, were frequently brought together; the first had the newest American trees from our Bartram, which, of course, were in demand by Brown. The latter used to relate a characteristic request to Lord Bute from Peter:—

"If a hare should chance to stray,
Ticket his feet and send this way."

To which his lordship replied:—

"A hare I have found, and ticketed his feet
To Peter Collinson, of Gracechurch Street."

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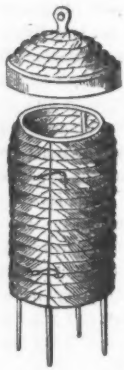
Covering Half-Hardy Plants.—For covering half-hardy plants, or screening from dry winds, various means are employed. In France, a basket is constructed, of two semi-cylinders, constructed in the mode of straw hives. To these are fixed solid feet of wood to drive into the ground. If it is necessary to shelter one plant from east or northeast winds, one cylinder is sufficient; but if it is a plant which you are forced to protect, is delicate, and requires a more complete protection, you inclose it between the two semi-cylinders, fixed one to the other by means of hooks represented in the drawing. A lid of the same construction, furnished at its edge with a circle of woodwork, is fitted, when necessary, on the cylinder, and thus, perhaps, offers a more effectual shelter against the severity of cold winds and excessive heat than any other. These sorts of shades are light to move, very solid, and very warm; for, letting but little of the exterior air penetrate, they preserve at night the heat which accumulates in the interior. They would also guard plants well from the sun, and thus offer a means of checking the natural perspiration of green parts. Probably nothing could be invented more suitable for the protection of young plants, like the magnolia grandiflora, in this latitude, where the frozen sap is attacked by the sun, and the leaves in young specimens annually killed. For protecting the stems of grafted roses from the summer sun, they might be made of basket willows.



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Sweetbrier.—The sweetbrier makes a highly ornamental hedge. It ought to be more common here.

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Root Grafting the Rose.—An English gardener writes on this subject that, "just as the buds were swelling, he pulled up an old rose bush, cut off some of the strongest roots and grafted them with *La Reine* and other good sorts, potted them in small pots, leaving a couple of buds above the soil, and placed the pots in a close cold pit. All, or mostly all, are now nice flowering plants, and the pots full of roots. I am not aware that this successful mode of propagating is at all generally practised. Every cutting of new roses might thus be grafted, and with a better chance of success, apparently, than making cuttings."

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A Cherry, Pear, and Nectarine.—At the last meeting of the British Pomological Society, Mr. Rivers, of Sawbridgeworth, produced fruit of *Lemercier Cherry*, which were large and very beautiful. This is a distinct variety of *Reine Hortense*, from which it is distinguished

by the upright habit of the tree, and the fruit being somewhat later. The fruit was very large, tender, and melting, with a very agreeable and refreshing flavor. Mr. Rivers also exhibited ripe specimens of *Doyenné d'Eté Pear*, which is the earliest variety they have in England, coming in even before the *Citron des Carmes* and the *Crawford*. It is a pretty little fruit, with tender and juicy flesh, and with a sweet and agreeable flavor. Mr. Rivers brought specimens of a new seedling nectarine, which was raised from the *Stanwick*, and which he considered an improvement on that variety. We have, says the *Cottage Gardener*, had an opportunity of seeing the fruit, and feel pleasure in saying that we regard it as one of the greatest additions we have had to this class of fruits, not excepting the *Stanwick* itself, to which it is infinitely superior both in size and flavor. The fruit is very large, one of the specimens being eight inches in circumference, and of the shape of a truncated cone. It is mottled with pale and very dark red where exposed to the sun, and is of a greenish-yellow where shaded. The skin is thin; the flesh separates freely from the stone, is exceedingly tender and melting, being somewhat of a buttery texture, like the most delicate of the Beurré Pears; the juice very abundant, and so full of sugar as to be quite a syrup; the flavor is full and rich, and exceeds in richness that of any other nectarine. The kernel, like that of its parent, is quite sweet, like a filbert. The fruit was from a plant grown in a pot; and it was suggested that, if grown in the open ground, the fruit might even be larger. There was one peculiarity which was remarked in all the specimens, that the stone, in every instance, was cracked.

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Common Plants.—A recent writer well observes: "There is nothing too common, or betokening stinginess or poverty, in having the oldest or simplest plant well grown and bloomed in a pot; everybody loves to see them. Look at the hanging plants in the Crystal Palace, and say if you ever saw so many of the very commonest plants put together before. Not one of them but the poorest man in the next village might have in his window, and yet everybody admires them. It is only that fashion requires the rich to have more costly plants, but surely there is no reason why you and I should not have them, or that we should be so foolish as to hanker after guinea plants, which are not a bit the better for being dearer."

Baskets.—The same writer says: "Every case I recollect of seeing ivy and flowers associated, the effect was agreeable. I have seen hundreds of ladies admiring, and investigating the *modus operandi* of hillocks, or baskets of flowers, formed simply by driving rough pieces of wood into the ground, covering them with ivy, and filling the space within with earth and plants, having some of the outside rows of the latter of such a character as to interlace a little with and fall over the ivy. I lately saw a nice ivy basket on the lawn. Originally, a basket had been made, with one central stem to support it, and against this ivy had been planted, trained up and round the basket. The original basket has long been gone, but the ivy retains the shape, and bears, without flinching, the weight of the earth and plants; the diameter of the basket being, so far as I recollect, something about four feet."

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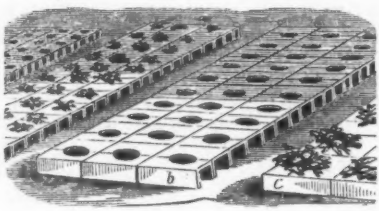
The Law of Slopes!—The following is worthy of being stored in the memory: In France, the high roads must not exceed 4° 46′ by law; in England 4°, or one foot rise in thirty-five. A slope of 15° is extremely steep, and one down which one cannot descend in a carriage. A slope of 37° is almost inaccessible on foot, if the bottom be a naked rock or a turf too thick to form steps. The body falls backwards when the tibia makes a smaller angle than 43° with the sole of the foot—42° being the steepest slope that can be climbed on foot in a ground that is sandy. When the slope is 44°, it is almost impossible to scale it, though the ground permits the forming of steps by thrusting in the feet. A slope of 55° to man is quite inaccessible.

MILDEW ON THE VINE.—A scientific gardener declares, in the *Cottage Gardener*, that wherever he has seen the mildew prevail most in hothouses, it has been where great numbers of plants were grown in the same house. The moisture arising from the necessary waterings caused the mildew to spread rapidly. Few plants in the vinery, and a free circulation of air—especially in the morning—to carry off the damps, are highly important.

STRAWBERRIES.—A refinement in strawberry culture may be practised with advantage where expense is no object. *a*, a bed of young strawberry plants with the tiles placed around them. *b* shows the end of a bed, with the tiles placed down without the plants. *c* shows the end of a bed with the fruit and foliage upon the tiles. It would be injurious to the plants to place these tiles around the plants early in the season, as they would deprive them of rain during the growing season; but, just as the blossom is appearing, it is an advantage, as the fruit would lie dry and clean on the upper surface. These tiles are so constructed, on flange-like edges, as to give a good circulation of air below.




ROSE CULTURE.—Four things are absolutely essential in high rose culture—a rich and deep soil, judicious pruning, freedom from insects, and watering when requisite. If any one of these be wrong, the success will be in proportion incomplete. Soil is the first consideration; what is termed a sound loam, they all delight in; the soil should be adapted to the stock rather than the scion, or kind worked on it. The common, or dog-rose stock thrives best on strong loamy soil, in half-shaded situations near water, without manure; cultivated roses require the latter because they have more hard work to do; their amount of blossom, if weight alone be allowed as a test, would, in most cases, doubly and trebly exceed that of the dog-rose—added to which they have less foliage.

Roses, on their own roots, require that the soil be modified according to kind; we should not use so adhesive a soil to a Tea or Bourbon rose as to ordinary kinds; organic matter is here required. Depth of soil is of great importance to all kinds; it is the deeper series of fibres, situated in a proper medium, that sustains a good succession of flowers, in defiance of heat and drought.

Judicious pruning reduces the rampant growths, and increases the energies of those which are of a more delicate constitution, relieves from superfluous shoots and useless wood, and reduces the whole outline to a compact or consistent form. Insect ravages must be guarded against—tobacco water or fumes will do this; bathing them twice a day with water from a barrow-engine is only objectionable from the time required. If you have not provided deep culture, watering, in dry times, will be requisite; but this should be done thoroughly rather than frequently, and the surface soil should be frequently stirred without injuring the roots. Liquid manure—say two ounces of guano to a gallon of water—should be given once a week. With this treatment, every one may have fine roses.

COLOR AND ODOR OF PLANTS.—MM. Fremy and Cloez have extracted and isolated the blue coloring matter of flowers—a highly delicate operation. It is not indigo, as was supposed; they call it cyanine. It is turned red by acid vegetable juices, and they find it in certain roses, peonies, and dahlias. Viale and Latini, of the University of Rome, have, as they

believe, confirmed the supposition that the odor of plants and flowers was due to ammonia; the odor being good or bad according to the proportions in which the ammonia was combined. From this it is shown that plants are doubly beneficial, by absorbing ammonia, as well as exhaling oxygen. We must remark, however, that some chemists dispute the accuracy of these conclusions.

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Sundry Matters promised for this month have been crowded out unexpectedly, among them communications from valued correspondents on subjects of permanent interest from Cincinnati, New Jersey, &c., but for which room will be found in our next. The delay in publishing the report of the Pennsylvania Horticultural Society, was unavoidable. Interesting matter for the *Horticulturist* is now crowding in upon us.

The "Calendar of Operations" which we commence, it is intended to carry through the year, forming a feature that many have regretted the absence of in former volumes. It will make the present a valuable book of reference for the future, as well as the present time, and is by an able hand.

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The Poultry Exhibition in Philadelphia, a few weeks since, was very successful and useful. The Governor of the State attended and made a very good speech.

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Is Grape Culture and Wine Making firmly established among us?—This question we put to a distinguished vine-grower in Cincinnati, R. Buchanan, Esq., more to satisfy some friends than to clear up any doubt of our own. The following is his reply: "I am happy to be able to say that, in the West at least, I consider the vineyard culture of the Grape firmly established. It is also increasing with great rapidity all over the West and Southwest. The sale of grape-cuttings in Cincinnati last spring amounted to over 2,000,000, and of stocks 300,000. I sold from my own vineyard 140,000 cuttings. This looks like progress. The demand for the wine fully equals the supply, but the hard times of last year caused an accumulation of the stock of sparkling Catawba (the most expensive of our wines), which will take another year to diminish. I repeat to you in all candor my opinion, that the vine culture is now established as a branch of national agriculture that cannot retrograde. It has also the sympathy of the moral part of the community, who believe that the spread of the wine will diminish intemperance."

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The Niles Pear, exhibited at the December meeting of our Horticultural Society, is a foreign variety with a native name, and was thought by many to be identical with the Easter Beurré, but comparison from the same place of growth, showed how distinct they are. The Niles was then nearly ripe. There was a fine display of Passe Colmar, which is to December what the Seckle is to the September month, scarcely to be excelled in its season. The Vicar of Winkfield *looked* "watery" beside the Duchesse D'Angouleme.

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Dwarfing Pears.—R. H. Tubbs, Kingston, Pa., writes us: "I am trying to dwarf the pear on the Juneberry. Thus far it promises well, one tree having borne a fine crop the fourth year from the bud. Its advantages would be longevity and freedom from disease; it is an American forest tree."

# Horticultural Societies.

Pennsylvania Horticultural Society.—The stated meeting of this Society was held in Concert Hall, on Tuesday evening, October 16, 1855, the President in the chair. Premiums were awarded as follows, by the Committee on Plants and flowers:—

*Collection of twelve Plants*—for the best to John Pollock, gr. to James Dundas; for the second best to Thomas Robertson, gr. to B. A. Fahnestock. *Collection of six Plants*—for the best to the same. *Specimen Plant*—for the best to John Pollock, and for the second best to Thomas Robertson. *Basket of cut Flowers*—for the best to Mark Hill, gr. to M. W. Baldwin; for the second best to J. J. Habermehl, gr. to J. Lambert. *Bouquets*—for the best pair to J. J. Habermehl; for the second best to H. A. Dreer. *Special Premiums*—one of two dollars to Robert Kilvington for a pair of Bouquets and a pyramid of indigenous flowers; another of one dollar to A. L. Felten, for a fine display of Dahlias.

By the Committee on Fruits. *Grapes*—for the best collection to Mark Hill; for the second best to J. McLaughlin, gr. to Isaac B. Baxter. *Pears*—for the best collection to the same; for the second best to Mrs. C. Mackau. *Special Premiums*—two dollars to G. W. Earl for a Seedling Clingstone Peach of fine appearance and very fair taste; and one dollar to Peter Raabe for a very excellent Grape, called Clara, said to be a seedling, and which the Committee are of opinion is deserving of more than passing notice.

The Committee called the attention of the Society to a specimen of the Graslin Pear, a foreign variety, by Robert Buist, and for the first time shown, which they consider an acquisition, and rate as *best*.

By the Committee on Vegetables—*Display by a market gardener:* for the best, to A. L. Felten. *Display by a private gardener:* for the best, to Robert Dunlap, gr. to Christopher Fallon.

The Secretary stated that since the last meeting he had received a box containing clusters of the *Early Northern Muscadine Grape*, with a specimen of wine made of that grape, from D. J. Hawkins and P. Stewart, of New Lebanon, N. Y., with a request to submit them to the inspection of the Committee on Fruits, which he did accordingly; and the Chairman reports that, after a careful examination by the taste, &c. (the odor could not be mistaken), they were clearly of opinion that the plant is a seedling of the worthless Fox Grape of our woods, and not deserving a place in any catalogue as desirable for culture, and no more to be compared to our Isabella or Catawba than a Chicken Grape to the White Muscat of Alexandria, and consider it a duty to stamp with emphatic reprobation any attempt to introduce for cultivation an article so utterly destitute of value as the so-called Northern Muscadine.

The Chairman of the Committee on the 27th exhibition submitted a report, minutely describing the display as it was held at Penn Square, on the 11th, 12th, 13th, and 14th days of September.

The President made a few remarks in commendation of the zeal of the Committee in conducting the exhibition, and that the cordial thanks of the Society were due to them for their active exertions.

Eleven gentlemen were elected members.

Objects Exhibited.—*Plants* by J. Pollock—collection of twelve: *Allamanda cathartica, Adamia versicolor, Veronica Andersonii, Beloperone oblongata, Begonia Laperousia, B. Prestoniensis, Cuphea platycentra, Impatiens latifolia, Jasminum grandiflorum, Petunia Hermonie, Salvia lilicina,* and *Torenia Asiatica.* Specimen—*Allamanda aubletia.*

By Thomas Robertson—collection of twelve: *Allamanda cathartica, Manettia glabra, Clerodendron squamatum, Pentas carnea, Begonia Xanthina, Torenia Asiatica, Veronica Andersonii, Geranium Punch, Abelia rupestris, Clerodendron multiplex, Erica mutabilis,* and *Convolvulus pentanthus.* Collection of six plants—*Stigmaphyllum ciliatum, Begonia umbellata, Angelonia gardeneriana, Cuphea platycentra, Pentas carnea,* and *Geranium Hendersonii.* Specimen—*Manettia cordifolia.*

*Baskets and Bouquets.*—By Mark Hill—a basket and two bouquets. By J. J. Habermehl—basket and a pair of bouquets. By Robert Kilvington—a cone bouquet of indigenous flowers, and a pair of bouquets. By H. A. Dreer—a pair of bouquets. By James Kent, gr. to J. F. Knorr—a pair of bouquets. *Cut dahlias.*—By Gerhard Schmitz—very fine seedlings; and by A. L. Felten, a large display.

*Fruits.*—By Mark Hill—*Grapes:* Black Hamburg, Black Prince, Black Frankenthal, Grizzley Frontignac, White Frontignac, White Bual, Cochin China, and White Muscat of Alexandria. By John McLaughlin—*Grapes:* six bunches each of Seedling Frost, Schuylkill, Catawba, Fox, Black Prince, Chicken, Ohio, Isabella, Elsinboro', Xeres, and Black Hamburgh. *Pears:* four specimens each of St. Germain, Brown Beurré, White Doyenne, Napoleon, Broom Park, Duchesse d'Angouleme, Le Curé, Passe Colmar, and Kingsessing. By Mrs. C. Mackau—*Pears:* Chaumontel, Belle de Montigney, B. Gris, Baker, Bameiux, Ananas, Columbia, Liberal, Angleterre St. Germain, Lawrence, Fondante des Malines, Duchesse d'Angouleme, Andrews, Passe Colmar, St. Ghislan, Delisse de Van Mons, Bartlett, D. d'Hiver, Fulton, and Tresor Amour. By Charles Sutherland, gr. to John Anspach—three bunches of White Syrian Grapes. By Geo. W. Earl—a fine seedling Clingstone Peach. By John Chambers—a good seedling Peach. By Peter Raabe—a specimen of the "Clara" grape—a seedling. By L. Chamberlain—Isabella Grapes.

*Vegetables.*—By A. L. Felten—a large and fine display. By Robert Dunlap—a very good display. By M. Murphy, gr. to J. C. Vogdes—a small display. By B. Higgins, gr. to D. R. King—specimens of the "Loof" fruit, or Wash-rag Plant, from seed brought from Cairo by Dr. Dorr.

*November* 20, 1855.—The stated meeting was held this evening—Caleb Cope in the chair.

Premiums—awarded by the Committee on Plants and Flowers, viz: *Collection of twelve Plants*—for the best, to Thos. Robertson. *Speciment Plant*—for the best, to the same. *Table Design*—for the best, to Thos. Meghran, gr. to M. Bouvier. *Basket of Cut Flowers*—for the best, to Jerome Graff, gr. to Caleb Cope; for the second best, to J. J. Habermehl. *Bouquets*—for the best pair, to Jerome Graff; for the second best, to J. J. Habermehl. *Chrysanthemums,* twelve plants—for the best dwarf varieties, to the same; for the best specimen of a large variety, to the same; for the best of a dwarf variety, to Barry Higgins. *Special Premiums*—one dollar to Alexander Parker, for a collection of Chrysanthemums; and three dollars to Jerome Graff, for a collection of Orchids.

By the Fruit Committee: *Pears,* collection of fifty specimens of five varieties—for the best, to Isaac B. Baxter. *Special Premiums*—four dollars to Mrs. C. Mackau, for a very fine collection of Pears; four dollars to Jerome Graff, for a fine collection of Pears and Grapes. As these did not comply with the regulations, they could not compete for the Schedule Premiums.

By the Committee on Vegetables: *Celery*—for the best six stalks, to James Jones, gr. at the Girard College; for the second best, to J. J. Habermehl. *Brussels Sprouts*—for the best six stalks, to A. L. Felten; for the second best, to Barry Higgins. For the best display of Vegetables by a market gardener, to A. L. Felten. *Special premiums*—two dollars to M. Hagerty, gr. to Joseph Harrison, for a small display of fine vegetables; one dollar to Wm. Johns, for four dishes of fine Tomatoes, very perfect; one dollar to A. L. Felten, for a supe-

rior display of cauliflowers. The Committee noticed two very superior heads of cauliflowers, shown by Maurice Finn, gr. at the Eastern Penitentiary; and called the attention of the Society to a beautiful display of heads of wheat, rye, oats, barley, and a few large potatoes grown in California, and exhibited by Robert Cornelius.

OBJECTS SHOWN.—*Plants* by Thos. Robertson—*Aphelandra cristata, Epiphyllum truncatum, Daphne indica, Amaryllis aulica, Geissomeria longiflora, Cuphea platycentra, Primula pleno-alba, Geranium Tom Thumb, G. unique, Pentas carnea, Torenia Asiatica,* and *Plumbago rosea;* specimen, *Linum trigynum.* By Jerome Graff—*Orchides, Zygopetalum Mackayii, Stanhopea* species, *Calanthe veratrifolia,* and *Maxillaria picta.* By J. J. Habermehl—twelve dwarf Crysanthemums, and specimens of the large and dwarf kinds. By Robert Buist—*Ardisia crenulata fructo-alba,* and a blue Salvia from Mexican seed—a new variety. By B. Higgins—*specimen,* dwarf Chrysanthemum. By Alexander Parker—a great variety of Chrysanthemums.

*Designs, Baskets, and Bouquets.*—By Jerome Graff—a basket bearing a cut the flower of *Victoria* in the centre, and a pair of bouquets. By J. J. Habermehl—a basket and a pair of bouquets. By Thos. Meghran—a design. By James Kent—three bouquets.

*Fruit.*—By Isaac B. Baxter—*Pears:* St. Germain, Le Curé, Passe Colmar, Broom Park, and Duchesse d'Angouleme. By Jerome Graff—*Grapes:* Muscat of Alexandria, Purple Damask, Syrian, &c.—*Pears:* Passe Colmar, Easter Beurré, Niles, La Fortunie, B. D'Aremberg, D. Blanc, B. Diel, and Winter Nelis. By Mrs. C. Mackau—*Pears:* B. Gris, Liberal, B. D'Aremberg, Bon Cretein, Angleterre Noisette, St. Germain d'Automne, Glout Morceau, Duchesse d'Angouleme, Andrews, Bartlett, D. d'Hiver, Epine Dumas, D. Blanc, Lawrence. By Alexander Parker—*Pears:* two kinds.

*Vegetables.*—By A. L. Felten—a large and varied display of excellent growth. By M. Haggerty—a small display. By Wm. Johns—Tomatoes, cut fresh from the vines grown in pots under glass. By Jerome Graff—Brussels Sprouts. By B. Higgins—Brussels Sprouts. By James Jones—fine Celery. By Robert Cornelius—seeds of wheat, rye, oats, and barley; also, large potatoes grown in California.

[NOTE.—The reports of the Pennsylvania Horticultural Society, always welcome, have heretofore *repeated* the name of the employer *each time* that the gardener's name was mentioned. A repetition, we are assured, no one requires. The excellent Secretary will see that we have diminished his report in this particular for the sake of space for other matters.—ED.]

# Calendar of Operations.

## JANUARY.

IT is proposed to offer to the readers of the *Horticulturist* a monthly calendar of operations, or hints of the work to be performed in the fruit, vegetable, and flower gardens, greenhouse, grapery, pleasure grounds, &c.

The subjects are both extensive and prolific, requiring volumes instead of pages for their proper elucidation; calendars in general are, therefore, either too brief to be valuable, or too lengthy and minute for the limited space which can be spared in a monthly periodical. We shall attempt to steer a middle course, and direct our remarks rather to the principles of culture, and those fundamental laws which govern vegetable growth, than to the mere explanation of practical details; the latter, however, will, to a certain extent, be recognized. This course is, indeed, rendered imperative in a work that circulates in a country embracing

every variety of climate, from the frigid to the torrid zones. But Nature's laws are universally alike, her modes of action are the same in every climate, and the same laws are observed whether in the production of the tiny moss or the gigantic sequoia. It may further be necessary to state that I make no pretensions to instruct experienced cultivators, but write with a view to assist and increase that already numerous class of amateurs who find their greatest pleasure in rural pursuits, and in the contemplation of the "varied works" of Nature.

Fruit-Trees.—Those that have been recently planted should be properly secured. Of the many essential points in culture, no one is paramount; it is only from a happy combination of the whole that we can expect constant success. A tree may be planted in the most congenial soil, and with all possible care, yet, if allowed to sway about with every breeze, this will counteract the best treatment. Mound the soil well up the stems of newly planted trees, to throw off wet and keep the roots in a healthy condition, and in a state of growth. Dig up the ground and leave it exposed to the frost; apart from the highly beneficial action on the soil, this is one of the most effectual means for the destruction of insects and their larvæ. We have known plum-trees that were kept perfectly exempt from the attacks of the curculio by occasionally forking over the soil and exposing it to the winter's severity.

Pruning is an operation very little understood by the majority of cultivators; an annual visit to the orchard with an axe and saw, and the cutting out of a few limbs being considered the indispensable procedure. If your trees are old and overgrown with wood, thin them out judiciously; if very productive of fruit, but have made short and weak growths, prune them down severely; but young, strong-growing, fruitless trees do not touch while destitute of leaves.

Vegetable Garden.—One of the most important operations at this season, and one of great influence on the productive capabilities of the soil, is turning over the surface roughly, to expose it to the ameliorating and disintegrating action of the weather. While freezing, the contained water expands and separates the earthy particles, and a gradual crumbling and granulation takes place during the thawing process, and a friability is produced which is not attainable by any other means. By proper foresight, the labors of spring may also be lessened by this operation. For example, the ground set apart for early potatoes may be thrown up in ridges and thus left exposed all winter. When planting season arrives, the space between the ridges may be straightened with a hoe and the seed put in, covering it by levelling down the ridges; crops so treated will mature much earlier than by the usual method of sowing in the newly turned up cold soil, and can be put down from one to two weeks earlier in the season. Cauliflower, lettuce, and other plants in frames should be kept dry, especially in frosty weather, at all times protected from heavy rains; during snow storms they may remain covered up for several days, taking care to expose them gradually to sunshine afterwards.

Grapery.—The house should be well aired, never entirely closed, unless in rain, snow, or severe frosts. The soil or borders should be kept as dry as possible, both outside and in the house. The outside portion may be protected by a thick coating of leaves or littered manure. But they are most thoroughly protected by wooden or glazed sashes fitted closely to the lower ends of the roof-rafters of the house. If glazed sashes are used, many useful articles may be forwarded under their shelter. The best British Queen strawberries that we ever saw were produced in this manner, and were ripe three weeks before those in the open air. We have never seen this fruit worth looking at under out of door culture here; treated as above they are very superior. Other kinds, of course, are equally improved by this slight protection.

The vines will now be laid down in a horizontal position, and, where necessary, covered with straw. Ropes made of straw wound closely round the vines form the neatest method of protection. Raspberries will, of course, be under protection; laying down the vines and covering them over with soil is at once the simplest and best mode of bringing them through the winter; indeed, we have never seen them satisfactorily protected in any other way. Figs and tender grape-vines are also protected as above. Strawberries should be covered over slightly with manure, short hay, or leaves. This protection should not be confined to what is termed cold latitudes, as its advantages are equally observable whether the climate produces a cold of 50 degrees or 5.

Greenhouse.—The temperature may average from 40 degrees by night to 60° or 65° by day. The greatest source of disappointment proceeds from injudicious management of the atmosphere. Let it fluctuate similarly to the natural atmosphere; avoid keeping up a mid-day heat at midnight; always allow a diminution of from 15° to 20° by night over the heat of the day; do not open sashes and admit dry cold winds; air mostly by the top ventila-

tors, and keep the atmosphere charged at all times with sufficient moisture. Water always in the morning, and have a tank inside the house that the water may be of the same temperature. Never apply water until it is absolutely necessary, and see that it passes freely through the soil; the contrary will indicate deficient drainage.

Much depends upon the arrangement of the plants. There is always a *warm end* in all greenhouses, where the fire enters, which can be kept up a few degrees above the opposite end. Plants of a tender kind, or those in a growing state, should be placed there: luculias, leschenaultias, epiphyllums, torenias, kalosanthus, &c., comprise some of the former; while heliotropes, primulas, geraniums, roses, &c., will require warmth to keep them growing and flowering. Ericas, epacris, acacias, hoveas, polygalas, and others such should be kept as cool as possible. Camellias, azaleas, and, indeed, all other plants that are in flower, will require more water than those in a state of rest.

The proper application of water should receive every attention; much depends upon it at this season more especially. Pelargoniums, calceolarias, and cinnerarias should be shifted into larger pots, and kept on the front shelf near the glass, to prevent etiolation of the young stems, which injures their flowering properties. Young plants for the flower garden should be frequently topped (by pinching out the points of the shoots), to render them stocky and strong.

Tropæolums, a beautiful class of greenhouse climbers, require to be kept rather dry and near light. Mignonette in pots requires to be carefully attended to bring it to perfection; little water and plenty of light will keep it flowering. Keep under cover a supply of soil for potting; that produced from rotted turfs will answer all purposes, using sand, charcoal, or any similar material to maintain a constant porosity. There is no necessity for mixtures of peat and other nostrums, in the way of soil for cultivating plants in pots. The best plant growers are not so particular about the chemical constitution of the soil as its mechanical condition.

Fumigate twice a month with tobacco, to prevent the green fly from gaining a livelihood on the plants.

Flower Garden.—But little can be done here at present. Manure and composts may be applied, and the walks repaired if necessary. Geometrical gardens cut on the lawn should be carefully studied, with a view of arranging the plants to the best advantage, and ascertain the kinds and quantities required. Much taste and skill may be displayed in the combination and harmonious arrangement of various colored flowers in this description of garden.

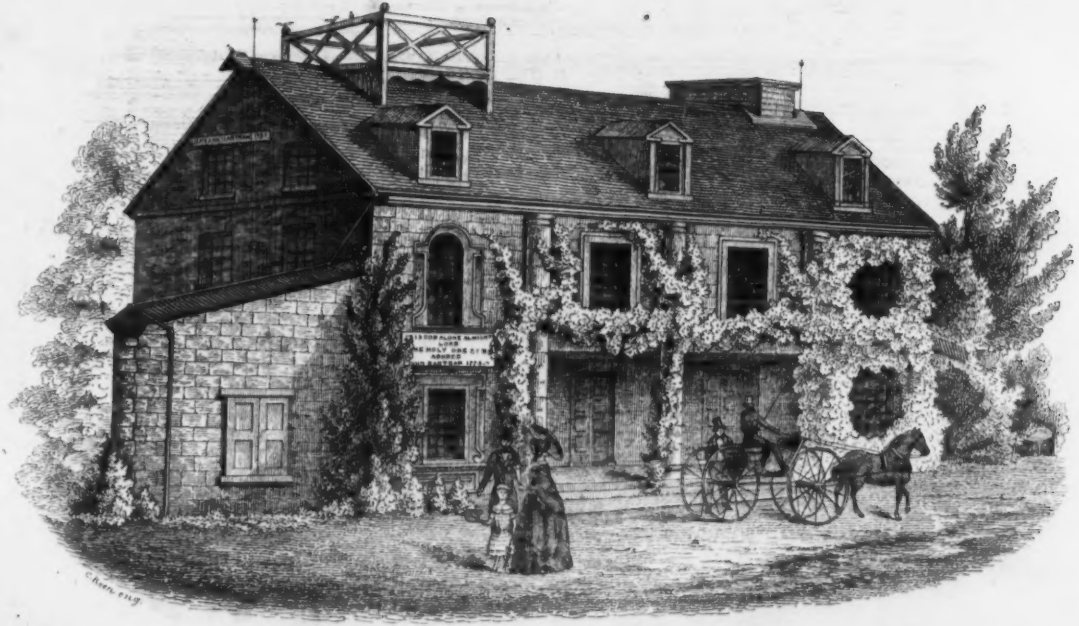
Pleasure Grounds and Shrubbery.—Contemplated improvements should be fully matured and studied before commencing active practical operations. Most of our rural places evince this want. It may safely be asserted that no permanent improvement will ever give satisfaction unless the whole arrangement is previously determined upon, even to the most minute details. But how often is it thought about? Let our expensive and unexpressive *pleasure grounds* (by courtesy so called) answer. Study the features of the locality and its connection with surrounding scenery, and follow Nature's promptings, which are always visible to the tasteful eye.

> "But learn to rein
> Thy skill within the limit she allows;
> Great Nature scorns control; she will not bear
> One beauty foreign to the spot or soil
> She gives thee to adorn; 'tis thine alone
> To mend, not change her features. Does her hand
> Stretch forth a level lawn? ah, hope not thou
> To lift the mountain there. Do mountains frown
> Around? ah, wish not there the level lawn."

Let everything that can be done to facilitate spring operations be proceeded with; make roads and walks, and dig out and prepare the ground for trees. Where this cannot be done, mark out the direction of the former, and insert stakes into the intended positions of the latter, and write the name of the tree on the stake. This will be found a great assistance when the hurried season of planting arrives; and, above all things, prepare an ample heap of suitable compost to plant with, that your luxuriant anticipations may the sooner be realized.

William Saunders.

THE READING PEAR.



THE OLD BARTRAM HOUSE.